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ABSTRACT

A highly technical report describes higher education forecasting procedures used by the State Education Department of New York at Albany to project simulated college enrollments for New York State from 1978-1994. Basic components of the projections--generated for full- and part-time undergraduates, full- and part-time graduates, and first-professionals--are: prospective student pools, participation rates, distribution patterns, flow patterns, and grouping criteria. First-professionals are projected at current levels due to the assumption that interest exceeds available classroom space. Part-time undergraduate, full-time graduate and part-time graduate enrollments are projected by applying projected participation rates for each Regents region to projected population levels in these regions for one or more age group, and then applying projected student distribution patterns across types of institutions. Full-time undergraduate enrollment levels are determined with a synthesis of flow patterns between classes, residence and migration distribution patterns, competition among institutions, cohort participation ratios, cohort levels and a mixture of historical trends, moving averages and judgmental projections of selected component parts. Detailed formulas accompany each process, and are designed for use in other state forecasting models. General indications are that the number of traditional college-age youth has reached a peak and will soon decline in New York State. Appendices include a series of supplementary tables describing trends for various input data, more detailed projections of the data, a description of institutional drawing power, and definitions of data terminology. References are also appended. (DC)

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THE SIMULATION OF COLLEGE ENROLLMENTS

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NEW YORK STATE 1978—1994

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Office of Postsecondary Research, Information Systems and Institutional Aid
Cultural Education Center (5B44)
Albany, New York 12230

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THE SIMULATION OF COLLEGE ENROLLMENTS: A DESCRIPTION OF A HIGHER EDUCATION ENROLLMENT FORECASTING MODEL

New York State 1978-1994

February 1980

This is a technical report prepared to describe the higher education forecasting procedures used by the State Education Department. The numerical results which serve as illustrations do not reflect official positions of either the Board of Regents or the State Education Department.

The University of the State of New York
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FOREWORD

This is the fourth in a series of reports related to higher education enrollment patterns and trends prepared by the Office of Postsecondary Research, Information Systems and Institutional Aid (OPRISIA). Student Demand for Higher Educaton: An Annotated Bibliography, summarizes 146 reports and other documents related to student demand. The second, College Participation Rates in New York State, provides historical statistics on college participation patterns and suggests factors and situations that may influence participation in the future. The third, Residence and Migration of College and University Students in New York State, 1974-1977, describes student migration patterns both within the State and to and from other states. Other reports in the series will deal with a variety of related topics such as institutional drawing power, student choice of institution, enrollment patterns, and demographic changes.

This report describes in some detail the higher education enrollment forecasting procedures used by the New York State Education Department. It also provides illustrative simulations from the model along with some of the important input data used in the calculations. It is basically a technical report written to document the procedures, assumptions and applications of the model. Chapter 5 provides a brief discussion of the utility of the model and its results when analyzing the future of institutional enrollments. It has been sent to each college and university in New York State as well as a number of other agencies, organizations, and individuals that have expressed interest in our work. Current plans are to publish a revised version of this paper every other year to describe changes in methodology and to present the latest projections and simulations.

Although this is essentially a technical report describing forecasting methods and procedures, numerical results are provided to enable readers to better understand the procedures and assumptions. The data and relationships are based on recent experience in the State; however, the resulting forecasts do not represent official Regents positions or goals. Official Regents goals and forecasts are released every other year in the Statewide Plan and Progress Report documents.

The run and results described as "more likely" in this report were the basis for the enrollment chart in the fall 1979 discussion paper for developing the 1980 Statewide Plan. The same figures also appear in another paper entitled College Enrollments and Student Access in New York State: Prospects for the 1980's, soon to be released. That report includes a more complete discussion of policy implications than does this one.

Many individuals have contributed to the development of the simulation model and the preparation of the latest projections. The latest version of the model and this report were developed by Glenwood Rowse. Earlier versions of the model were developed by Steven Cohen and Shimon Awerbuch. Assistance has been provided by Philomena Losee, Patricia Fitzgerald, David Waters and Young Lee. Questions and comments about the procedures and the report may be directed to Glenwood Rowse (518) 474-5091.

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CHAPTER I

INTRODUCTION

Overview

In 1974 a presentation was made by T. Edward Hollander, then of the New York State Education Department, to some skeptical college presidents in New York State about a significant decline in higher education enrollments expected in the eighties (see Hollander, 1977). Now the prospect of enrollment decline is widely accepted, though many educators are hoping that their institution will be able to avoid the statewide trend. In all likelihood, however, a large proportion of the institutions in the State will experience substantial decline rather than stability, and most of the rest are likely to experience significant shifts in the average ability and program interests of their students. Evidence compiled in recent months indicate that:

- On the basis of a national decline in the 18-year old population from 4.2 million in 1975 to 3.6 million in 1985, the American Council on Education has projected a 4.4 percent decline in freshman enrollments during the 1975-85 decade (Henderson, 1977). There are regional differences, of course, which the American Council on Education is also computing. For example, the State projected to lose the most freshmen was New York (36,016), while the state with the greatest percentage loss was projected for New Jersey - 42.6 percent.

- A recent national survey by the Graduate Records Examination Board shows decreases in graduate enrollment in 1976 ranging from 5.4 percent in education to 0.2 percent in the physical sciences (Graduate Records Examination, 1977). The biological sciences showed the only increase over the preceding year (2.7 percent).

- The Carnegie Council, in its already classic More Than Survival, takes a longer view than most, and projects a decade of decline in nationwide enrollment from 8.4 million undergraduates in 1975 to 8.2 million in 1985 (Carnegie, 1975).

It is important to realize the declines projected for New York State are based on known declines in actual births and population levels. The numbers of high school graduates from which institutions draw the majority of enrolled freshmen will certainly decline by over 8 percent (20,000) and perhaps by as much as 20 percent by 1985. By 1990 the decline will be greater than 30 percent of 1976 levels. The resultant effect on undergraduate enrollments is even greater since the influence extends over four class years. A decrease of 20,000 high school graduates translates to over 10,000 entering freshmen and in four years time more than 30,000 fewer full-time undergraduate students in the statewide pool. It is unlikely that participation rates will increase enough to offset this decline. More pessimistic analysts, including Stephen Dresch (1975), feel that participation rates will actually decline as continuing high levels of college attendance create a condition of, as Dresch calls it, economic saturation. Researchers such as Bowen (1977), Cartter (1976) and Freeman (1975) provide less pessimistic assessments.

Role of Enrollment Projections in Higher Education Planning

One key to effective planning for decline is information developed to support effective planning and to help select appropriate response strategies. Enrollment simulations and projections are one important type of information because they provide indications of what will happen in the future if current or assumed patterns of participation occur. Among the more traditional ways that State agencies and legislative groups make use of enrollment projections is for the identification of levels of financial support which will likely be needed in the future (e.g., Bundy Aid, tuition assistance, general institutional aid, and facilities development). When properly developed and presented, enrollment projections can also be used to plan for the provision of services. For example, they might suggest appropriate timing for consolidation of similar programs across the State system during periods of declining demand or, areas in which services might be expanded to handle unmet demand for educational opportunity.

The attainment of the goals for postsecondary education specified in the New York Statewide Plan for Postsecondary Education (NYSED, 1976) are closely related to enrollment projections. Routes toward quality of education, responsiveness to societal needs, efficient use of resources, freedom of access and freedom of choice are all influenced. Individual institutions use the projections in much the same way. The projections are related to future revenue levels. They also may suggest the need to alter admissions strategies and recruitment policies, or even to alter general institutional goals or program emphases or management techniques. In general, the recent projections of rapidly falling enrollments are a warning that institutions may have difficulty in the future.

If information regarding the future can be used in these ways, it is important to understand how one projects the future. What is a projection and what kind of projection is most useful? There is no single answer to this question, but, in general, it can be said that the effectiveness of projections in supporting planning activities is greatly influenced by (1) their timeliness (2) their accuracy (3) their meaningfulness, and (4) their ability to stimulate understanding and discussion of past and future determinants of enrollment levels and their broader consequences.

The most useful projection methodology, therefore, will be one which supports decision-making and is not limited to numerical projections. Ideally, it will exist within a broader management information system and planning context. As such, it should contribute to the availability, understanding and appropriate use of relevant numbers as well as the development of accurate numbers. Since institutional circumstances vary, institutions will be able to interpret projection numbers for their own needs only if the factors influencing enrollments are also described and understood. It is this last point which has had the greatest effect thus far on the way in which enrollment projections are developed in New York State.

Aspects of the New York State Approach to Enrollment Projections

A primary concern of the New York State approach is that projections be useful. A basic distinction should be made between projections of future demand for educational services, of enrollments actually expected in the future and of the likely effects of various projected conditions on future demand or enrollment. Most studies attempt to project expected enrollment. This is a risky approach because projections have not generally been found to be highly accurate beyond 3-4 years into the future. In addition, policymakers and managers respond to the projections by altering the conditions assumed in the projection methodology in efforts to manipulate future enrollments. This will tend to make the numerical projections inaccurate. Even for the close future, fluctuations in enrollment levels are significant and often difficult to predict.

The New York State approach emphasizes the estimation of likely effects of various projected conditions (e.g., high school graduate levels) and possible actions (e.g., change in the tuition assistance formula). By providing a means for understanding current and projected influences on enrollments, institutions will be better able to apply the projection information to their own unique situations. New policies and plans should be more effective as a result. The New York State approach also emphasizes the systemwide constraints which exist on institutional enrollments, that is, that the actions of one institution will affect the enrollments of other institutions. This is a major difference from the methodology typically used by individual institutions to project enrollments.

To provide for increased understanding, a simulation model based on functional components observed in the higher education system was chosen as the basis for the projection methodology. As many "causal" influences and processes as possible are included in the Model and more will be included as it is modified and refined. Ultimately, the projection reports will emphasize changes occurring or

expected to occur in each component (e.g., regional college going rates) and its subcomponents (e.g., social values, economic conditions, selectivity levels, prospective student composition, financial aid programs).

Neither the determinants of student demand nor existing measures of student demand are well enough understood to simulate upper bounds on student demand levels. It is assumed that the upper bound on student demand is greater than any of our projections, since it is conceivable that institutions could (1) provide services or programs not yet available and (2) provide new or existing services in ways more accessible or more pleasing or less costly to prospective students. Thus, the projections or simulations emphasize the effects of expected high school graduate populations as well as of expected participation rates which are closely tied to economic conditions, social norms, and institutional and State policy. The initial, baseline projections rely on current enrollment trends and later runs emphasize possible changes in these patterns. It is expected that policies will be instituted by institutions and the State which will render these projections obsolete. Changing competitive forces and employment opportunities will change the distribution of students across sectors and types of institutions, and changing services and financial support may lead to changes in total statewide enrollment. A number of these possibilities have been simulated. It is the responsibility of institutional, sector and statewide managers to take action which encourages rational and desirable changes within certain constraints such as total available adult and 18-year-old populations.

The Education Department will continue to monitor and update projections frequently so that assessments of change are available. The existing enrollment projection model maintained by the Education Department is computer-based. It performs approximately a million computations to produce projections for each of 17 years into the future. Statewide projections, along with regional, sector, level,

and type of institution subtotals, are generated. Projections are made for full-time undergraduate, part-time undergraduate, full-time graduate, part-time graduate, and full- and part-time first-professional enrollments. Aggregation by the class level of full-time undergraduate students is also available.

Organization of This Report

The remainder of the report is organized into four chapters. Consistent with the philosophy that projections must be understood, Chapter II lays out the basic methodology so that readers may estimate how their institution may experience different enrollments than those projected for their sector, region, etc. Chapter III describes and explains the basic input conditions and influences (e.g., high school graduate projections, etc.). Chapter IV summarizes the assumptions used and presents the projections. Chapter V discusses some implications of the enrollment levels projected, a perspective on institutional enrollments and the utility of the Model in helping to project institutional enrollments. Chapter VI presents an evaluation of recent results obtained from the model. Supplementary tables describing historical trends for various input data are included in Appendix A and more detailed projections are included in Appendix B. Appendix C provides an elaboration of the concept of drawing power of institutions and its use in enrollments. Appendix D provides definitions for the data input variables.

CHAPTER II

METHODOLOGY

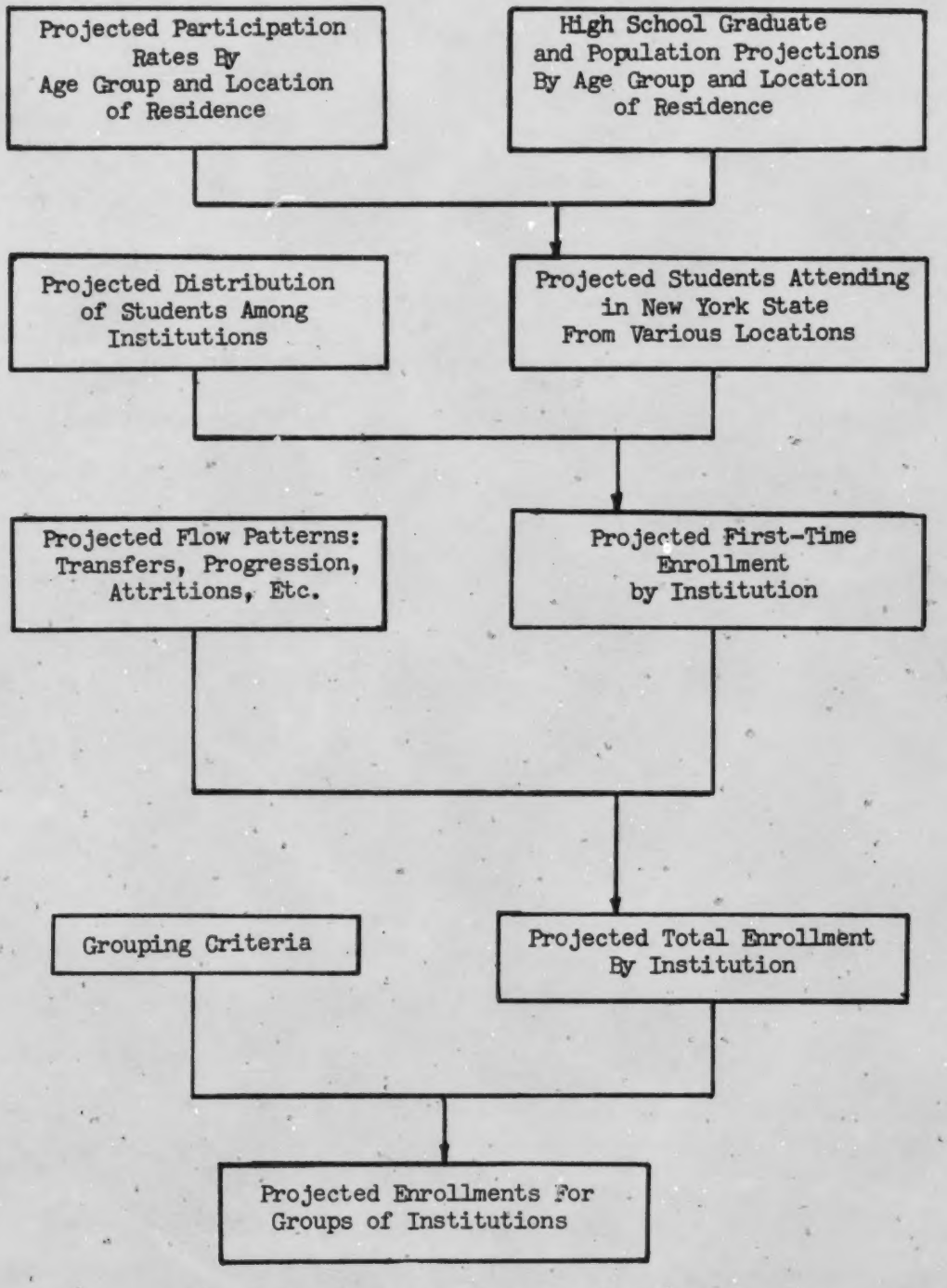
The enrollment projection model used by the New York State Education Department generates enrollment projections or simulations for five types of students: full- and part-time undergraduates, full- and part-time graduates, and first-professionals. The methodologies for each are described below. Figure 1 summarizes components or determinants of enrollment applicable for all types of students. The basic components are (1) prospective student pools, (2) participation rates, (3) distribution patterns, (4) flow patterns and (5) grouping criteria.

The least sophisticated procedure is used for first-professionals. These students are projected at current levels due to the assumption that interest or demand exceeds available classroom space for these students. No formal analysis has been done to indicate whether space made available to this category of students will change in the future. It is assumed that a change will not occur.

Part-time undergraduate, full-time graduate and part-time graduate enrollments are projected based on participation patterns of different age groups in the population. This is done by applying projected participation rates for each Regents region to projected population levels in those regions for one or more age groups and then applying projected student distribution patterns across types of institutions. The determinants and dynamics of graduate and part-time undergraduate enrollments are not well understood. Thorough study of recent participation patterns might identify flow characteristics and attendance predictors which could be used to improve the sophistication of our methodology. Manpower studies, in particular, may be helpful for these types of enrollments. However, the instability

FIGURE 1

DETERMINANTS OF PROJECTED ENROLLMENTS


Projected Participation Rates By Age Group and Location of Residence
High School Graduate and Population Projections By Age Group and Location of Residence
Projected Distribution of Students Among Institutions
Projected Students Attending in New York State From Various Locations
Projected Flow Patterns: Transfers, Progression, Attritions, Etc.
Projected First-Time Enrollment by Institution
Grouping Criteria
Projected Total Enrollment By Institution
Projected Enrollments For Groups of Institutions

observed for these enrollments suggests that reliable principles and predictors will not be easy to develop. Effort is being devoted to improving our ability to simulate graduate and part-time undergraduate enrollments.

The method for full-time undergraduates goes a step further since flow patterns between freshman and senior years are also considered. The procedure involves a synthesis of flow patterns between classes, residence and migration distribution patterns, competition among institutions, cohort participation ratios, cohort levels and a mixture of historical trends, moving averages and judgmental projections of selected component parts. Figure 1 describes the relationship between basic components. As previously mentioned, this conceptualization is applicable to any type of enrollment. However, certain components are bypassed for certain types of students. For example, because part-time undergraduate and graduate students do not usually display strong or well-understood flow patterns, that component was ignored for them.

The sophistication and effectiveness of the projection model will be determined by the intricacy and accuracy with which each major component is handled and by the sophistication of projection for each component. In general, formal projection procedures are generally more accurate than historical trends and moving averages when the input conditions are quite dynamic in nature. For example, only high school graduates were recently used to project freshmen. While fairly adequate, the consideration of other sources of students (e.g., adult "pools") has produced changes in our projections. Similarly, formal projection models being planned for participation rates should be an improvement over either a panel's judgements or the assumption of stable rates.

Projection Procedure

Due to its greater complexity, the procedure for computing the full-time undergraduate projections will be emphasized. It will be described in global terms,

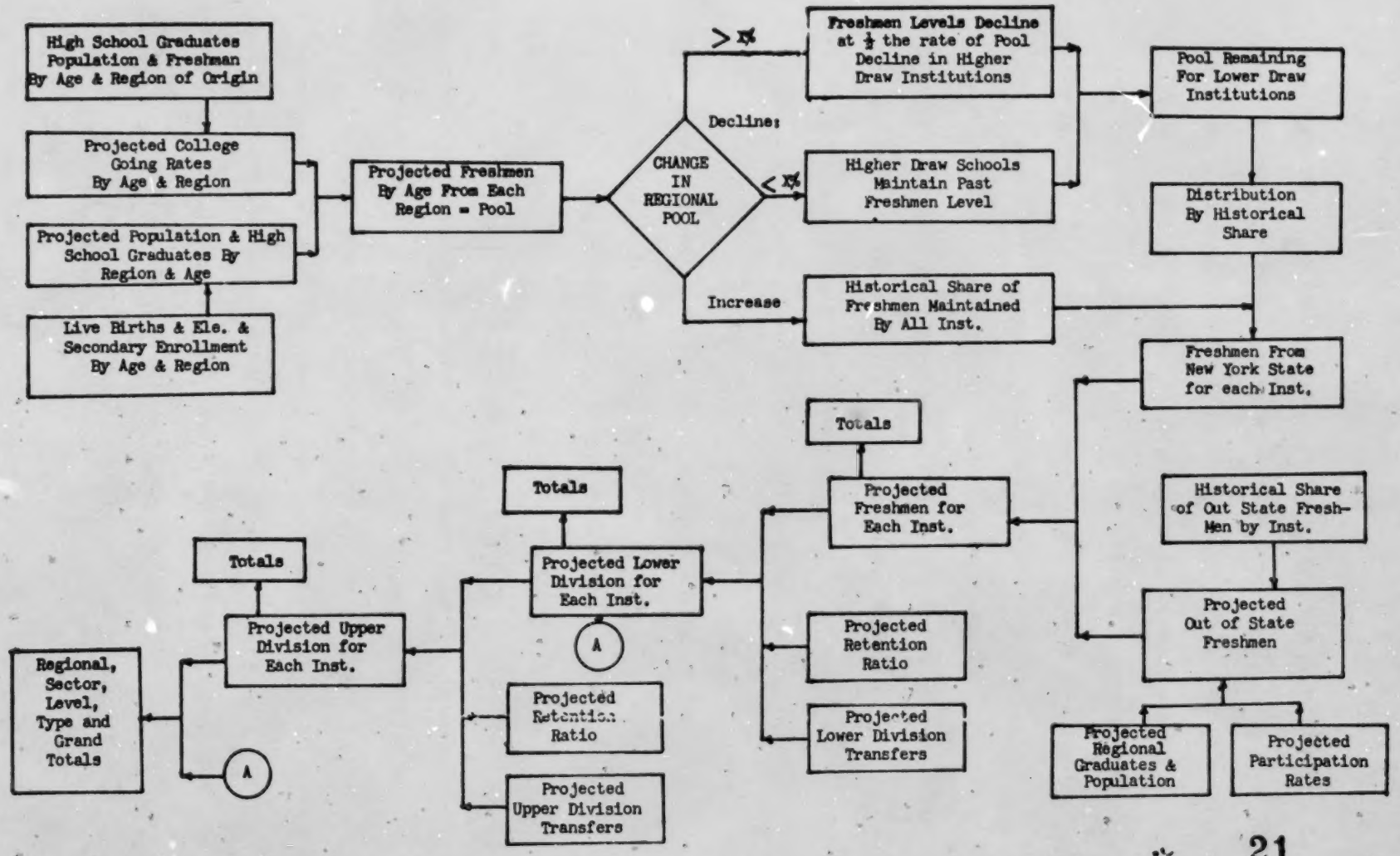
then a summary of the specific computations will be presented. The projections for the other student types follow the same procedure, and the equations are identical except as specified and with the two following exceptions: (1) The institutional projections are complete once distribution of students has occurred. (2) Distribution of students is based on a weighted average of recent historical distributions and judgements about future distributions with no use of drawing power concepts. For all types of enrollment, projections are made for a given year and the results used as input to develop the next year's projections.

The current procedure simulates quite closely the natural flow of students in colleges and universities. Using full-time undergraduates as an example, figure 2 shows that a certain portion of the high school graduates and adults choose to enter different institutions in higher education as freshmen. This pool of freshmen is then distributed among the available institutions. In its basic form, the distribution of students by the model is achieved by assuming that historical residence and migration distribution patterns will continue into the future, subject to changing admissions policies and attractiveness levels of institutions. For example, an institution with higher drawing power will tend to increase its relative share of the available student pool if the pool of students has decreased significantly during the past year. It need only accept a greater proportion of its applicants (an alternative which schools with lower drawing power do not have). On a longer term basis lower draw institutions may improve their draw by adapting their mission or otherwise improving their attractiveness attributes. Refining our understanding of drawing power and its effects would make the model more realistic, more useful in planning, and probably more accurate. See Appendix C for a more complete discussion of this problem.

The natural flow of enrollments is followed further by calculating lower division enrollments as a percent of previous freshmen enrollments and upper

FIGURE 2

FLOWCHART OF THE FULL-TIME UNDERGRADUATES PROJECTION MODEL


High School Graduates Population & Freshman By Age & Region of Origin
Projected College Going Rates By Age & Region
Projected Population & High School Graduates By Region & Age
Live Births & Ele. & Secondary Enrollment By Age & Region
Projected Freshmen By Age From Each Region = Pool
CHANGE IN REGIONAL POOL
> X%
Decline:
< X%
Increase
Freshmen Levels Decline at ½ the rate of Pool Decline in Higher Draw Institutions
Higher Draw Schools Maintain Past Freshmen Level
Historical Share of Freshmen Maintained By All Inst.
Pool Remaining For Lower Draw Institutions
Distribution By Historical Share
Freshmen From New York State for each Inst.
Historical Share of Out State Freshmen by Inst.
Projected Out of State Freshmen
Projected Regional Graduates & Population
Projected Participation Rates
Totals
Projected Freshmen for Each Inst.
Projected Retention Ratio
Projected Lower Division Transfers
Totals
Projected Lower Division for Each Inst.
A
Projected Retention Ratio
Projected Upper Division Transfers
Totals
Projected Upper Division for Each Inst.
Regional, Sector, Level, Type and Grand Totals
A

division enrollments as a percent of previous lower division enrollments. Projections of the numbers of transfer students are incorporated where appropriate. Once projections are completed for the individual institutions, simple addition provides the desired regional, sector, level, type and statewide subtotals and totals. These aggregated projections are much more accurate than the institutional projections. Assumptions may not be appropriate for individual institutions, but they generally apply to the groups of institutions. This is true in part because the total full-time, first-time student projection for the State as a whole was immediately constrained by calculating the number of students expected to attend in the State as a whole. The distribution procedures change the statewide projection only to the extent that they shift students to institutions having on the average higher or lower transition ratios in lower and upper division.

Definitions

Specific definitions of the enrollment terms used in this report are provided in Appendix D. They correspond to the definitions used on the State data collection forms (HEDS) which institutions fill out annually.

Summary of Computations

Preparation of the input data for the full-time undergraduate projection model requires developing three weighted averages, one for residence and migration data (RSM), one for transition ratios from freshmen enrollment to sophomore enrollment (A), and one for transition ratios from lower divison enrollment to upper division enrollment (B). For other enrollments only the residence and migration average is calculated. Weights are currently set so that the most recent year is weighted as heavily as possible without relying solely upon a single year's data and events. The resulting averages are then used to project year K + 1 which in turn is used to project year K + 2. The specific calculations are:

Average Number of Students to Institution i from Region j:

RSM = (RSM75 + RSM76 + 3RSM77) (1/5).

In the full-time undergraduate version of the Model full-time, first-time students are used at this stage. Unclassified students are assumed to be from the home region.

First-Time to Sophomore Transition Ratio for each institution:

$$\text{Transition Ratio (Year = K) = A(K) = } \frac{\text{Lower Division (K) - First Time (K)}}{\text{First Time (K-1)}}$$

$$\text{Average A (Years 1972-1978) = } \frac{A(72)+A(73)+2\,A(74)+3\,A(75)+5\,A(76)+10\,A(77)+22\,A(78)}{(1+1+2+3+5+10+22=44)}$$

The divisor is the sum of the weights for all data available. If A(77) or A(73), for example, does not exist then the divisor would be 22 rather than 44.

Lower Division to Upper Division Transition Ratio:

$$\text{Transition Ratio (Year=K) = B(K) = } \frac{\text{(Upper Division (K) - Transfer into UD (K)}}{\text{Transfers into LD(K-1) + Lower Division (K-2)}}$$

$$\text{Average B (Years 1974-1978) = } \frac{B(74)+B(75)+2B(76)+4B(77)+8B(78)}{(1+1+2+4+8=16)}$$

Participation: The projection model begins by calculating the available number of students from New York State. Recent experience has shown that the instate participation rates, including the college entrance index (CEI), vary from region to region within the State. The CEI is the ratio of resident full-time, first-time students from a region attending instate to the preceding year's high school graduates from that region. As an example of its variability, in 1977 the CEI was 0.70 for New York City and 0.47 for the Genesee Valley region. Since the instate CEI is a primary determinant of full-time undergraduate enrollment in the State, it was important to account for the effects of regional differences. To do so, separate participation rates were estimated for each region. For a given year (K), population group (G), and Regents region (J = 1,8), the number of New York State students ($POOL_{G,J,K}$) available to New York institutions of higher education is:

$$POOL_{G,J,K} = RATE_{G,J,K} * POP_{G,J,K}$$

Full-time, first-time undergraduate students are projected using four population groups and participation rates (high school graduates, which correspond to those less than age 20, ages 20-24, ages 25-29 and ages 30-44). Six population groups are used to project the other enrollments (Ages 15-19, 20-24, 25-29, 30-34 and 45-59). (See note at end of chapter for references to population and high school graduate projection methodologies.)

Distribution: Once the pool of students from each region is determined, the next step in the model is to distribute them to individual institutions. Recent high school graduate projections indicate little growth between 1976 and 1980, and significant declines between 1980 and 1990, with the pattern of projected changes in high school graduates varying across regions. Further, it does not seem likely that the relative "market share" of every institution will remain constant, particularly since certain institutions are "more attractive" than others for a variety of reasons. Empirically, these institutions are usually those for which demand for admission significantly exceeds the supply of spaces. They also tend to attract their students from a wide geographic area, that is, their "market" is not strictly determined by local or regional geographic boundaries and trends.

To reflect such differences "higher draw" institutions have been identified in the full-time undergraduate projection procedure. Weighted average shares were assumed for graduate and part-time enrollments. "Higher draw" institutions experience smaller declines in enrollment than the "lower draw" institutions in the model. Draw is not equivalent to an institution's quality or general attractiveness, although, in practice, measures of attractiveness and quality are felt to be useful indicators of drawing power. Three criteria have been used to categorize an institution as "higher draw" in the initial classification efforts:

1) An institution must offer admission to no more than 70 percent of its freshman applicants, and

2) An institution must draw at least one-half of its full-time New York State freshman from outside the region in which it is located, and

3) An institution must draw at least 25 percent of its full-time freshman from outside New York State.

Admissions and residence and migration data for 1977 were used. Because of the nature of New York State's public system of higher education, City University campuses were assigned to drawing power class by reputation rather than by the above criteria. Their admissions procedures do not allow calculation of the typical acceptance and enrollment ratios. The third criterion was not applied to any public institutions. Since they do not encourage out-of-state students, it would not be indicative of their drawing power.

All proprietary institutions were considered to be higher draw because their enrollments have been rising sharply in the last few years. Enrollments at upper division institutions are held stable as they are not directly linked to the freshmen pool. The total number of these enrollments is small so the problem is not serious. As a result of applying these basic criteria, 80 public, independent and proprietary institutions out of a total of 227 were identified as "higher draw."

The projection model first allocates freshmen to the "higher draw" institutions. For regions in which the pool of prospective students is expected to grow (that is, where $POOL_{j,k} > POOL_{j,k-1}$) it is assumed that the institution's relative share of the student pool will remain constant, that is,

$$FTS_{ijk} = \frac{FTS_{i,j,k-1}}{\sum_i FTS_{i,j,k-1}} * POOL_{j,k}$$

where FTS_{ijk} is the number of full-time, first-time students ("freshmen") at institution i from region j in year k. If the pool of prospective students in a given region is expected to decrease (that is, $POOL_{j,k} < POOL_{j,k-1}$) the "market share" of a "higher draw" institution is expected to increase. If the decline in the pool is less

than 3 percent, the "higher draw" institutions are expected to maintain their most recent level of freshmen from that region. When the decrease in the pool for a region exceeds 3 percent, it is assumed that the "higher draw" institutions will reduce the number of freshmen from that region in order to not change the type of students they accept. It is further assumed that the percentage decrease in freshmen will be less than or equal to the percentage decrease in the level of the population group, that is,

1) For all j, k such that

$$1 > POOL_{jk}/POOL_{j,k-1} \geq 1.0 - x/100.0 \quad \text{then, } FTS_{ijk} = FTS_{i,j,k-1}, \quad x = 3$$

2) For all j,k such that

$$POOL_{jk}/POOL_{j,k-1} < 1.0 - x/100.0, \quad FTS_{ijk} = \frac{FTS_{i,j,k-1}}{\sum_i FTS_{i,j,k-1}} * y * POOL_{jk}$$

where $1 < y \leq POOL_{j,k-1}/POOL_{jk}$

This procedure is repeated for each population group and the results added to produce a total freshmen projection for each institution.

The projections outlined in this report assume that x = 3 and that $y = (1 + P_{j,k-1}/P_{jk})/2$. This means that the "higher draw" institutions maintain first-time enrollments from a given region unless the student pool has declined by more than 3 percent. When the decrease from the preceding year exceeds 3 percent, these institutions reduce their freshmen one-half as fast as the rate of decrease in the pool of students.

Once the number of New York State full-time freshman is projected for "higher draw" institutions, the remaining pool of instate freshmen for each region is allocated to the remaining institutions on the basis of their current relative market share. First, all student pools are reduced by the amount allocated to "higher draw" institutions. Letting $RPOOL_{jk}$ be the reduced pool for region j in

year k, and S be the set of "higher draw" institutions, the reduction was:

$$RPOOL_{jk} = POOL_{jk} - \sum_{s} FTS_{ijk}$$

Freshmen from these reduced pools are then allocated to the remaining institutions based on their current market share as is done for all institutions when projecting other types of enrollment.

$$FTS_{i,j,k} = \frac{FTS_{i,j,k-1}}{\sum_{A} FTS_{i,j,k}} * RPOOL_{J,K} \text{ for all lower draw institutions}$$

The pool of prospective full-time first-time students from outside New York State is developed using a weighted average of the projected numbers of high school graduates for the nation less those for New York State but including projected New York State adults. It is assumed that in-migration of first-time students would change from its current level in proportion to changes in the projected numbers of high school graduates and adults. Students from outside New York State were assigned home region 9 (j = 9), so that

$$FTS_{i,9,k} = RSM_{i,9} \frac{1}{7} \left(\frac{4HSG_{9,k}}{HSG_{9,1976}} + \frac{POP_{1,9,k}}{POP_{1,9,1976}} + \frac{POP_{2,9,k}}{POP_{2,9,1976}} + \frac{POP_{3,9,k}}{POP_{3,9,1976}} \right)$$

The weights reflect the distribution of students by age group. Total freshmen for a given institution in any year, therefore, represented the summation of the freshmen over all regions. A similar procedure using only population groups was used for other enrollments. The result was the completed institutional projection for that type of enrollment.

Flow: Once first-time entrants have been estimated, the model then projects lower division enrollments. For a given year k, lower division enrollment at institution i is

$$LD_{i,k} = FTS_{i,k} + (A * FTS_{i,k-1})$$

where A is the average transition ratio estimated from seven observations for years 1972 to 1978 as previously described (page 13).

Aggregate full-time lower division enrollment is used as the basis for projecting full-time transfer students entering the upper division. In reality, full-time transfer students also come from a number of other sources, including out-of-state colleges; however, insufficient information is available about actual transfer patterns to permit historical patterns to be used as a basis for prediction. The equation used to predict full-time transfer students in institution i during year k is:

$$T_{i,k} = \frac{LD_{k-1}}{BASELD} * C(BASETR) \qquad \text{where,}$$

$$BASELD = \frac{LD_{1977} + LD_{1976}}{2} \qquad \text{and} \qquad BASETR = \frac{TR_{1977} + TR_{1976}}{2}$$

"C" is a subjective factor which, for example, could reflect the existence of policies oriented towards increasing the number of 2-year college graduates going on to 4-year colleges in the state. It should be noted that full-time transfer students accounted for less than 8 percent of New York State's full-time undergraduate enrollment in 1976, so inadequacies in the projection of tranfers will not produce large errors for the aggregate projections

The next stage of the model calculates upper division enrollments. The equation used was:

$$UD_{i,k} = ADJT * T_{i,k} + B\,(T_{i,k-1} + LD_{i,k-2})$$

where B is the averaged upper division transition ratio which was previously described (page 13). In other words, upper division enrollments equals transfers into the upper division plus a group of "surviving" lower division students. ADJT is the proportion of the transfers which enters upper division. The actual institutional value for 1977 was used. The enrollments at upper division institutions are currently held constant.

Total full-time undergraduate enrollments at each institution are computed by summing the lower and upper division projections. Finally, and for each type of enrollment, the projections for individual institutional enrollments are aggregated to obtain statewide, sector, level, type and regional projections. The codes and classifications for each of the descriptors used to define these groups of institutions are provided in the data system report (OPRISIA, 1977).

NOTE: Population and high school graduate projections are developed by the New York State Department of Commerce (1978) and the State Education Department's Information Center on Education (1978) respectively. Both are cohort survival methodologies. Descriptions of the methodologies are provided in the referenced documents. For various runs of the Model, modifications were applied to the projected numbers.

CHAPTER III

FACTORS INFLUENCING FUTURE HIGHER EDUCATION ENROLLMENTS[1]

The most significant factors affecting future enrollment levels are highlighted below. The basic influences include high school graduate and population characteristics as sources of students and their distribution, participation rates and flow patterns. Studies of each of these influences are being carried out to describe and discuss their historical and expected future impact. The discussion that follows highlights some of the most important factors.

HIGH SCHOOL GRADUATES[1]

relevance	**	Recent high school graduates are estimated to make up over 81 percent of full-time, first-time freshmen classes.
the recent explosion	**	Statewide levels rose steadily from 118,000 in 1956 to 212,000 in 1966 and 249,000 in 1976; increases of 80 percent and 17 percent respectively for the two, ten-year periods. Growth was fairly uniform during both periods. The preceding decade (1946-1956) had been much more stable, increasing only 10,000 from 108,000 in 1946 or 9 percent.
shifts in regional shares	**	Regional distribution of high school graduates were as follows for 1966 and 1976. The most prominent changes were a 6.3 percent loss in New York City and gains of 3.6 percent in Long Island and 2.0 percent in the Mid-Hudson region.
declining levels expected	**	From projections published in 1976, high school graduate levels are expected to be steady until about 1981 when the statewide level is expected to begin falling until a drop of 20,000 has been reached in 1984. In 1987 or 1988 another decline should begin which may be as much as 40,000 graduates. Together, these two drops are expected to result in a 25 percent decline by 1990. As shown in Figure 3 on page 21, the regional distribution of high school graduates is not expected to change appreciably.

[1]See Appendix A for tables of Historical Trends and Projected Levels.

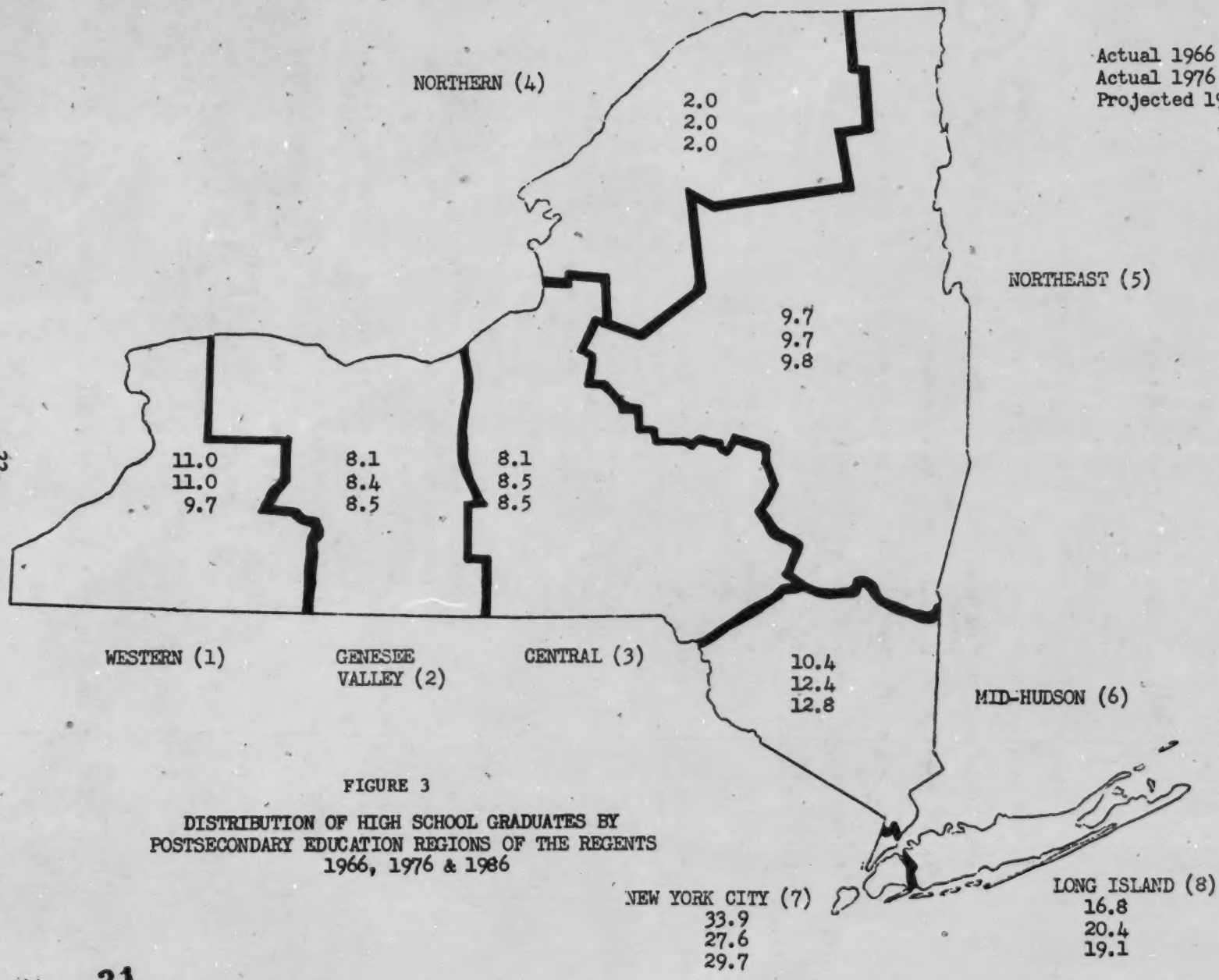


FIGURE 3

DISTRIBUTION OF HIGH SCHOOL GRADUATES BY
POSTSECONDARY EDUCATION REGIONS OF THE REGENTS
1966, 1976 & 1986

variations in projections

** Statewide, the 1976 projections were about 8 percent higher for all years than the projections published in 1974. In New York City the increase averaged over 15 percent. The increase was due to a) increases in grade progression ratios observed in three years of newly available historical data, b) improved reporting by schools, and c) to minor methodological refinements. Increases of one-half to one percent in individual grade-to-grade progression ratios can generate the observed change in the high school graduate projections.

** Projections released in February 1978 are 15 percent lower for 1990 than the numbers published in 1976. The new projections are based on two additional years of historical data and reflect recent out-migration from the state. Because they assume that the recent high level of out-migration will continue indefinitely, they might be considered increasingly conservative through the projection period. An adjustment was made before using the numbers in the Model. See Figures 4 and 5 for the regional projections.

out-of-state

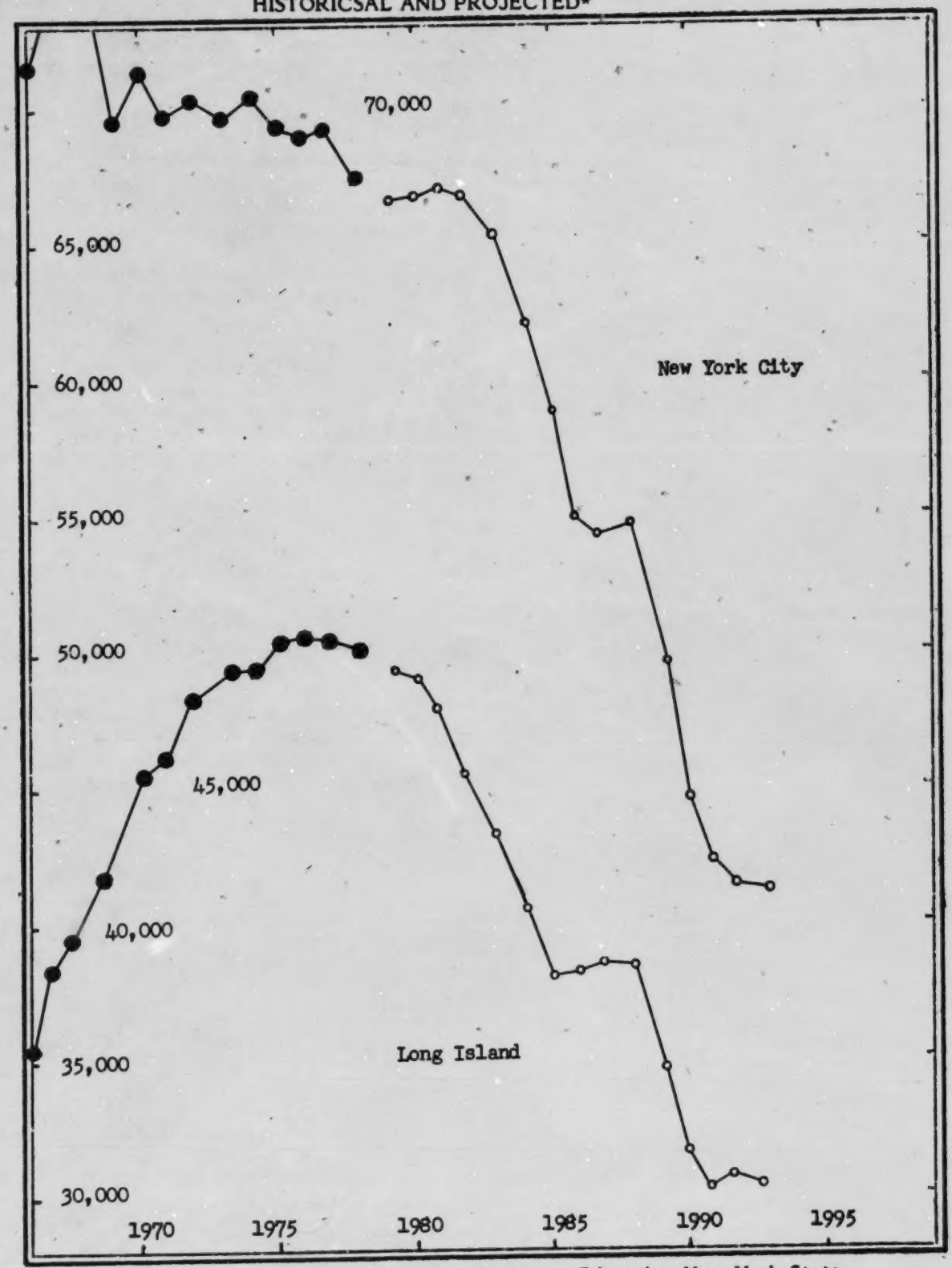
** Out-of-state high school graduates are expected to decline by 14 percent in the next ten years following the same curve as New York State graduate levels.

impact on future enrollments

** From 1977 the expected decline in high school graduates of 20,000 by 1984 and 60,000 by 1990 converts to a decline in full-time undergraduates of over 20,000 and 80,000 for those years. This corresponds to an average statewide "instate" college going rate near 47 percent and to an <u>average</u> undergraduate class size near 72 percent of the average freshmen class. The impact of increasing adult populations has been considered in making this estimate.

FIGURE 4

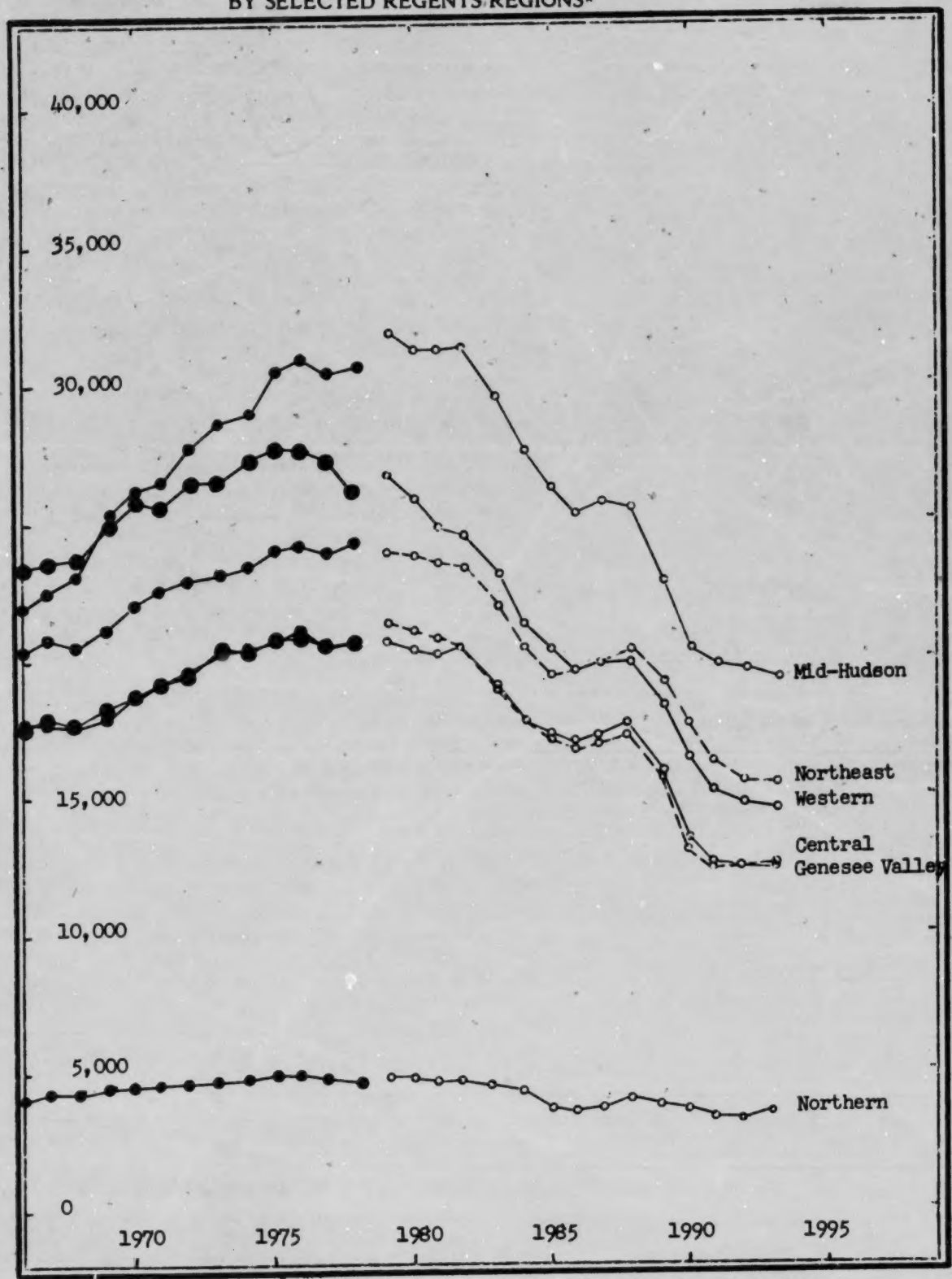
NEW YORK CITY AND LONG ISLAND HIGH SCHOOL GRADUATES
HISTORICSAL AND PROJECTED*



*Released February 1978 by Information Center on Education New York State Education Department (GLR 7/79).

FIGURE 5

HIGH SCHOOL GRADUATES HISTORICAL AND PROJECTED
BY SELECTED REGENTS REGIONS*



*Released February 1978 by Information Center on Education New York State Education Department (GLR 7/79).

POPULATION FACTORS

relevance of age to enrollments **

From data from the State University of New York, part-time undergraduate students are quite evenly distributed among ages 17-44. However, it seems that part-time graduates are more apt to be from the 25-34 age group (over 53 percent). As would be expected, full-time graduate students are dominated by a slightly younger group, while the part-time graduates are split more evenly among the various age groups. In all cases, the proportion representing the 25-34 age group has increased in the last three years. Eighty-one percent of the full-time, first-time students in the State in 1975 were less than 20 years of age and 9.5 percent were 25 or older.

growing population expected **

The 15-59 age group in New York State is projected to increase approximately 5.1 percent by 1985 from the 1975 level of 10,870,000 (New York State Economic Development Board, 1977). Influential factors are the continuing decline in fertility rates, the increasing longevity of the population and migration in and out of the State.

an older population **

The distribution of New York State population by age group is expected to shift somewhat, and, as participation rates vary by age group, certain enrollments will be affected. In general, the higher age groups will gain proportionally. See Figure 6.

lower projections **

The 1977 projections of "adults" (ages 15-59) by the New York State Economic Development Board are slightly lower than the projections published in 1975, by 1.4 percent for 1977 and .9 percent for 1990. Assumptions regarding future migration patterns greatly affect the results.

changing needs **

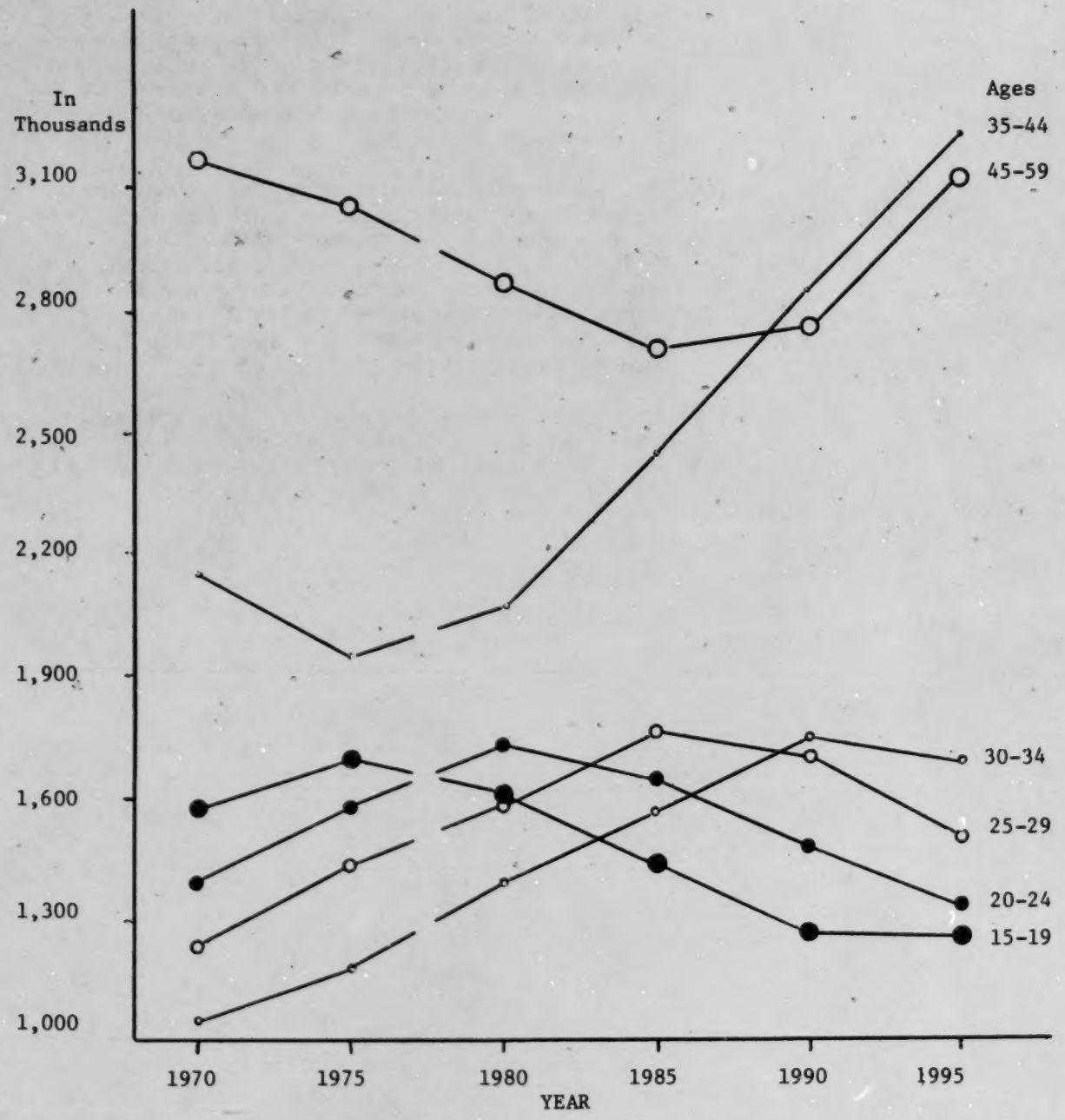
Education at the college level in New York State and throughout the United States has expanded greatly in the last few decades. A higher percent of the work force now has a college degree and many have graduate degrees. The need for and nature of continuing education may change substantially in the future as a result. A much higher percent of the new freshman students are beginning to come from second or third generation college families as well. Research has shown that these types of students display quite different aspirations and educational desires (often lower) than first generation college students. Significant adaptations may be required by institutions due to this factor.

changing compositon **

While overall fertility rates have been dropping in the U.S., the rates for minority and economically depressed groups has not declined. Similarly, the reduction in birth rates for older, but not younger, women has increased the

FIGURE 6

NEW YORK STATE POPULATION PROJECTIONS
BY AGE GROUP[1]



[1]Published January 1978 by NYS Economic Development Board

SOURCE: Postsecondary Research Information Systems (GLR/7/79)

proportion of adolescent and out-of-wedlock births (14 percent in 1960 compared to 19 percent in 1974). At some point either a much different clientele will be reaching for our colleges or a reduced college-going rate may be experienced. If, when that point arrives, the usual rate of attendance continues, then a much higher proportion of the students can be expected to be financially needy. Even though the total number of students may drop, the number requiring TAP or other financial aid may not drop. Careful analysis of the likely effect and its timing should be made.

The socioeconomic backgrounds of students may also be affected by the net out-migration which New York State has experienced in this decade (537,000 from 1970 to 1975). Out-migration tends to be from highly skilled and educated groups between the ages of 20 and 40. This may increase the percentage of needy students and reinforces the need to project enrollments using several population age groups.

** At this time, adequate analyses of the impact of changing ethnic, racial, or religious (etc.) composition of the population are not available. They might well provide important insights.

PARTICIPATION RATES

recent rates **

Approximately eight percent of the New York State population between ages 15 and 59 are enrolled in a formal degree credit program in New York State at any given time. Full-time undergraduates have typically accounted for about 4.5 of the eight percent, graduate students 1.5 percent, part-time undergraduates 2.0 percent and first-professionals .15 percent.

significance of shifting levels **

A .0001 change in the participation rate of New York State adults (ages 15-59) as presently calculated changes the enrollment level by approximately 1,000 students. Fluctuations observed in regional rates during the last three years were often much greater than .0001. The average fluctuation of the full-time graduate rate was .00035. It was .0008 for part-time graduates, .0019 for part-time undergraduates, and .00013 for first-professional students. Thus, if historical trends were used for projection it would be very easy to err by as much as 19,000 for part-time undergraduates. This would be approximately an 8.3 percent error (19,000/228,000), even if the future rate did follow recent trends. Similar errors could occur for the other types of enrollments: 7.7 percent for full-time graduates, 7.6 percent for part-time graduates and 6.5 percent for first-professionals. The sensitivity of enrollments to small variations in the participation rates requires that thorough analysis of the factors affecting rates be incorporated into any method for projecting these enrollments.

significance of shifts **

An increase in the statewide college-going rate (CGR, the proportion of recent high school graduates choosing to enter college full-time) of one percent will increase the number of freshmen in the State by 2,500. After four years the total impact is approximately 8,000 additional full-time undergraduate students.

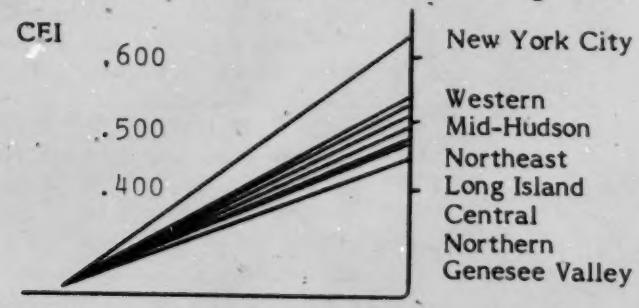
sources of freshmen **

The instate statewide College Entrance Index (CEI) is the ratio of resident full-time, first-time students to high school graduates. It rose dramatically between 1963 and 1968, then declined slightly in the early 1970's. By 1975 it had climbed back to just above the 1968 level. The rate fell by three percent in fall 1976 due primarily to a significant decline in New York city's rate (attributable to the fiscal situation in the City). However, small declines did occur in almost all regions of the State. Approximately 57 percent of New York State's high school graduates choose to enter an accredited institution of higher education in the first year or two following graduation. In 1975, about 20 percent (13 of every 57) of these individuals chose an institution outside of the State, compared with about 25 percent in 1968. In addition, for every 57 graduates choosing college another

11 individuals from the rest of our population chose to enter college in New York State. Together, this has resulted in an average instate CEI of about 55 percent over the last five years.

** Yearly fluctuations in CEI of as much as 5 percent have occurred in individual Regents regions although the typical changes are smaller. The rate for New York City has traditionally been 15-20 percent greater than those of other regions. While the New York City rates have ranged from 63-70 percent, the other regions tend to have rates between 45 and 52 percent. Regional rates for 1976 are presented below in decreasing order.

regional characteristics



Keep in mind that a difference in this rate may not be due to a difference in high school graduate participation; it could just as easily be due to different adult participation or to differing dropout rates in high school. "Urbanness" (a proxy for need and accessibility) seems to be a good criteria for predicting the regional ordering of the rates.

men and women

** Both national and New York State data indicate similar trends in male and female college-going rates. Male rates have declined a small amount in the 1970's, while female rates have risen several percentage points. In New York State they are estimated to have risen over 5 percent since 1972.

an uncertain future

** Literature review of existing and expected influences on participation rates has produced some interesting results. Figure 7 lists factors which may be affecting student decisions. These influences are discussed in the publication College Participation in New York State; Office of Postsecondary Research Information Systems and Institutional Aid, New York State Education Department, 1978.

societal trends

** It has been suggested that the world and the nation are entering a period of increasing conflict. Individuals are apt to find their existence less secure and comforting. Many will feel the need to be more technically literate. Crime and drug usage could become more common means of coping. Education could be encouraged as a

FIGURE 7
STRATEGIC INFLUENCES ON PATICIPATION RATES

Estimated Impact*		Environmental Characteristics
S+	—	Increasing participation rates of women and minority groups, a social and financial support charge.
S+	—	Tuition Assistance Program (TAP) incentives to switch from part-time to full-time status.
S+	—	Job or Career advancement requirements are increasing.
S+	—	Increasing societal tensions.
S-	—	Increasing cost of education.
S-	—	Decreasing value of education, depressed job markets.
S-	—	Harder economic times, more wives working and not available.
S-	—	The G.I. Bill is being terminated.
		Prospective Student Characteristics
L-	—	Changing composition of high school graduates, proportionally more from lower socioeconomic groups.
L-	—	Changing military demand on a declining high school graduate pool.
S-	—	Sibling density greater until 1983 or so.
S-	—	Migration of the primary college-going population groups out of urban New York Areas.
S-	—	Increased out-migration from the State of families holding professional jobs - a changing population composition.
?	—	A changing mix of the adult population in terms of both age and educational background.
?	—	High school graduation requirements are tougher - competency examinations.
?	—	Family educational history is changing.
		Choice Characteristics
S+	—	Tuition charges established for CUNY; recovery now underway.
S+	—	Changing selectivity requirements.
S+	—	Further development of services and recruiting for certain markets.
S-	—	Increasing competition from school systems.
S-	—	Increasing competition from industry.
?	—	Establishment of tuition levels and student support strategies in the future may either increase or decrease CGR.
0	—	Enrollment ceiling in SUNY System (not operative).

*These ratings which are based on the judgments of State Education Department staff, are provided primarily to stimulate discussion. The codes are:

S = Smaller Impact
L = Larger Impact
- = Negative Impact
+ = Positive Impact
0 = Little Impact
? = Unknown Impact

more preferable alternative to dealing with increasing conflicts in people's lives. The projected social trends which suggest this are listed below:

- Shortages of energy, jobs and food
- High inflation
- Increased competition for resources
- Unequal distribution of wealth, greater minority power
- Recently increased expectations stifled by drops in the standard of living; the growth economy is being slowed
- Depersonalization of society due to technological advances and the breakdown of familial proximities
- Increasing bureaucracy and red tape in and out of government - regulation
- Graying of America and its hidden costs
- Increasing pollution
- Declining productivity and poorer quality products
- Reduction in individual privacy
- Changing female roles

ENROLLMENT LEVELS (See Tables 1 and 2)

past trends

** Rather dramatic increases in New York State enrollments have occurred since 1960 as summarized below (over 1965 levels for first-professionals).

	Increase Over 1960 Levels in			
	1965	1970	1975	1977
Freshmen	51%	120%	149%	145%
Full-Time Undergraduate	55%	132%	189%	183%
Part-Time Undergraduate	5%	195%	351%	302%
Full-Time Graduate	8%	67%	88%	84%
Part-Time Graduate	11%	99%	148%	96%
Full-Time First-Professional		17%	42%	63%
Part-Time First-Professional		51%	42%	60%

The greatest increases occurred between 1965 and 1970 and enrollments are now leveling off.

greater perserverance of students

** Full-Time undergraduate enrollment has increased slightly faster than freshmen indicating that retention rates have increased as well. This trend may be currently changing.

primary bases of changes

** Since 1968, the increases appear to be due as much or more to larger high school graduate and adult population groups available to enroll although participation rates have increased some in that period.

interstate migration

** New York State typically has experienced greater outmigration than inmigration of all types of students. The net outmigration has, in fact, increased during the last fifteen years.

** Additional analyses of recent enrollment trends, including sector, level, and region analyses, are provided in the publication Recent Enrollment Trends in Degree-Granting Institutions in New York State; Office of Postsecondary Research, Information Systems and Institutional Aid, New York Education Department, 1976.

TABLE 1
NEW YORK STATE ENROLLMENTS IN HIGHER EDUCATION 1955-1975

	1955	1960	1963	1965	1968	1970	1975
Full-Time, First-Time Freshmen		63,469	67,468	95,796	141,774	139,809	157,724
Full-Time Freshmen in New York State from Out-of-State			10,268		15,388		15,971
Full-Time Freshmen from New York State Attending Out-of-State			22,928		31,151		31,828
Full-Time Undergraduates	165,611	189,822	213,141	293,183	378,346	439,726	549,174
Full-Time Undergraduate Transfers[1]							42,930
Full-Time Undergraduates in New York State from Out-of-State			33,463		50,545		48,245
Total Undergraduates from New York State Attending Out-of-State			84,057		109,821		111,781
Part-time Undergraduates		57,254		60,194		168,656	258,257
Full-Time Graduates		24,678		26,577		41,097	46,392
Full-time Graduates from Out-of-State							20,331
Full-Time Graduates from New York State Attending Out-of-State							25,652
Part-Time Graduates		49,891		55,454		99,081	123,608
Full-Time First-Professional				12,143		14,224	17,230
Part-Time First-Professional				1,157		1,745	1,639

[1]Undergraduate Transfers are taken from the admissions forms.
SOURCE: NYSED: HEDS (GLR/1/78).

TABLE 2
NEW YORK STATE ENROLLMENTS IN HIGHER EDUCATION 1976-1982

	1976	1977	1978	1979	1980	1981	1982
Full-Time, First-Time Freshmen	151,762	157,191	155,600				
Full-Time Freshmen in New York State from Out-of-State	14,915	13,520					
Full-Time Freshmen from New York State Attending Out-of-State							
Full-Time Undergraduates	538,147	542,690	538,343				
Full-Time Undergraduate Transfers[1]	43,586	45,063	45,783				
Full-Time Undergraduates in New York State from Out-of-State	48,916	49,202					
Total Undergraduates from New York State Attending Out-of-State							
Part-time Undergraduates	228,131	225,340	229,423				
Full-Time Graduates	45,889	45,613	45,535				
Full-time Graduates from Out-of-State							
Full-Time Graduates from New York State Attending Out-of-State							
Part-Time Graduates	105,210	101,600	98,085				
Full-Time First-Professional	18,392	19,767	20,954				
Part-Time First-Professional	1,762	1,851	2,980				

[1]Undergraduate Transfers are taken from the admissions forms.
SOURCE: NYSED: HEDS (GLR/9/79).

STUDENT DISTRIBUTION

sector shares **

Approximately 61 percent of the freshmen in New York State currently enroll in public institutions, 34 percent in independent institutions and five percent in proprietary institutions. The distribution of all undergraduates is slightly different due to the proportions of two-and four-year institutions in each sector and perhaps due to differential growth rates in the two sectors. The proprietary sector share of undergraduates is 50 percent less than its share of freshmen and the Independent share is over two percent less.

shifting shares **

Several shifts have occured in the sector distribution of freshmen between 1970 and 1976. The proprietary sector rose from near zero to almost 5 percent in the last five years due to the addition of institutions to degree-granting status. The independent sector lost proportionally between 1970 and 1973 but rose again thereafter, perhaps as a result of the TAP program. The proportion attending City University has declined steadily since 1970, while the proportion attending State University has increased by over 3 percent. City University declined by 3 percent in 1976 alone, apparently as a consequence of the fiscal crisis in New York City. The Independent sector share increased by over 3 percent in 1976.

four-year share is down **

Freshmen distributions by level of institution show an expected trend associated with the expansion of community colleges in the State. Two-year freshmen have increased by over 20,000 since 1970 while the number of four-year freshmen has been quite stable. This changed the proportion of four-year freshmen from 59 percent in 1970 to 54 percent in 1976.

distance predicts migration **

For full-time freshmen with few exceptions, the percentage of students choosing to migrate from their region of residence decreases rapidly with increasing distance. The New York City and Western Regents regions are relatively isolated from the rest of the State in terms of holding students. That is, the institutions in those regions tend to retain relatively large percentages of residents of their respective regions. See Table 3.

regional holding and drawing power **

The Northern, New York City and Long Island Regions have attracted the fewest freshmen from other regions. The Northern region attracts the fewest but sent even fewer of its residents to other regions of the State. Over 67 percent more students were enrolled in the region than chose to enter any New York State college from the region (i.e., nets at 164 percent of resident college-going students). Long Island has the lowest net (less than 75 percent); it not only receives few out-of-region students, but also over 35 percent of its resident

TABLE 3
REGIONAL MIGRATION OF FULL-TIME, FIRST-TIME UNDERGRADUATES IN NEW YORK STATE (1975-1976)
In Percents

	Institutional Location								NYS Total*	Net Effect**
	I	II	III	IV	V	VI	VII	VIII		
1975 Student Origin										
I-Western	82.7	7.4	5.1	1.5	2.2	.4	.4	.2	14,793	114%
II Genesee Valley	15.1	62.5	12.8	3.9	4.2	.7	.4	.4	10,215	111%
III-Central	6.6	7.7	67.9	5.9	9.6	1.3	.6	.4	10,772	164%
IV-Northern	3.5	6.3	13.4	58.5	17.3	.4	.3	.2	2,088	184%
V-Northeast	3.4	5.1	12.7	6.1	69.5	1.7	.9	.6	12,305	117%
VI-Mid-Hudson	3.3	4.6	12.7	1.9	7.7	57.3	9.4	3.3	16,185	78%
VII-New York City	1.0	1.1	2.9	.2	1.6	3.4	84.9	4.9	47,384	94%
VIII-Long Island	3.4	3.8	11.1	.9	6.3	4.7	8.3	61.5	27,276	73%
New York State	16,894	11,368	17,700	3,857	14,426	12,654	44,282	19,837	141,018	
1976 Student Origin										
I-Western	83.2	6.9	4.6	1.6	2.5	.5	.4	.3	14,226	119%
II-Genesee Valley	17.3	59.2	13.3	3.8	4.8	.7	.3	.6	9,527	105%
III-Central	7.3	8.0	66.7	5.7	9.8	1.2	.7	.7	10,110	162%
IV-Northern	6.6	5.7	12.0	59.1	15.0	.5	.9	.2	2,185	168%
V-Northeast	4.7	5.2	12..2	5.2	69.2	1.8	1.0	.6	12,120	115%
VI-Mid-Hudson	3.5	3.9	11.7	1.8	7.5	60.4	8.4	2.8	15,596	86%
VII-New York City	1.1	.9	3.2	.1	1.9	5.3	82.9	4.7	42,815	92%
VIII-Long Island	3.9	3.2	10.7	1.0	5.4	4.7	8.5	62.6	25,891	73%
New York State	16,958	10,036	16,339	3,660	13,913	13,380	39,286	18,898	132,470	

*Excluding Unknown New York State.

**Net Effect = 100 times the ratio of students attending in a region to students from the region attending anywhere in New York State.

SOURCE: NYSED: HEDS (GLR/1/78).

students choose to attend college in other regions of the state. The type and location of institutions may have a significant influence on the migration patterns. See Figure 8 for the location of colleges by type in New York State.

** The Central region attracts more out-of-region students and with moderate outmigration has among the higher net effect (162 percent in 1976). In contrast, the Mid-Hudson region retains considerably fewer of its resident students than does any other region and also attracts relatively few from other regions.

shifts in migration

** Regional migration patterns have been fairly stable between 1972 and 1976. However, the Western region did slightly increase both its holding power and its out-of-region drawing power during that period. And, despite expectations to the contrary, the fiscal crises and related events in New York City in 1976 did not result in a substantial increase in the outmigration of freshmen from the region (in 1976 outmigration was only 2 percent greater than in 1975 - a typical level of fluctuation).

occupational enrollment shares up

** Occupational degree credit students now represent a larger share of the undergraduate and first professional enrollments in the State than they did in 1970. They have risen from 14.0 to 19.6 percent of the total in that time. The increase is probably related to increasing costs of education, depressed labor markets, and changing social values.

program popularity

** Over twice as many students were involved in business-related programs in 1976 than the next most popular program area. Almost 19 percent of all degree-credit undergraduate and first-professional students in the State were estimated to be studying in business-related programs. The next most popular subjects were: health and paramedical (9.8 percent), social science (9.5 percent) and engineering (8.5 percent). Still, over 37 percent of the students were estimated to be split among other subject areas. Since 1975, enrollments shares have declined in departments of education, letters, mathematics and social sciences. Education declined the most, from 10.6 to 6.5 percent between 1971 and 1976 (51,000 to 36,000). Psychology dipped substantially this last year from 6.4 to 4.6 percent. The current trend appears to be toward more directly marketable skills.

projection based on the recent past and drawing power concepts

** In the projection model, the institutional distribution of full-time, first-time freshmen is projected using a moving average of historical patterns and judgments regarding the relative drawing power of institutions. As "higher draw" institutions were primarily four-year institutions, the future share of four-year institutions is expected to increase slightly (see Chapter II). Changing student values and preferences may require that the drawing power of institutions be reassessed periodically.

FIGURE 8

1978 INSTITUTIONAL LOCATIONS BY POSTSECONDARY EDUCATION REGIONS OF THE REGENTS AND SECTOR/TYPE OF INSTITUTION

FLOW PATTERNS

freshmen becoming sophomores **

Between 1971 and 1976, full-time sophomore enrollments increased by an average of 37 percent over the freshmen class from which most came. There are several explanations for this including (a) students returning after a delay in their education, (b) students transferring in from other institutions, and (c) students taking more than one year to progress past sophomore status. This transition ratio has increased by 15 percent since 1971 for reasons not yet understood. Individual institutions not only vary greatly on this characteristic but they tend to fluctuate significantly (21 percent on the average) from year to year. Identification of cycles, if they exist, might improve projection results.

upper division ties to lower division **

The ratio of upper division enrollments to previous lower division enrollments (adjusted for transfer students) displays somewhat different characteristics. The mean transition ratio across all institutions for the years 1973-1976 is only 61 perent. Evidently a large number of students either drop out or proceed much more quickly in their program after leaving lower division status. Very little change has occurred on the average recently, as evidenced by the mean trend for the years 1973-1976 (.01), and the moderately low average fluctuation level (9 percent per year). Upper division enrollments seem to be more stable than lower division enrollments. But as before, considerable variation in all values may be observed across institutions.

projection of transition ratios **

Transition ratios were projected by calculating weighted averages for several historical years for each institution. More recent years were given greater weights. For the base run it was assumed that the weighted average would be appropriate for all future years. Other runs of the model assumed a shift in these ratios. Analyses of factors affecting the ratios are being planned.

transfer levels **

Transfer students increased by only 7.7 percent to 42,149 between 1971 and 1976 compared to the 12.1 percent increase in freshmen in the State. This indicates that transferring has declined slightly as a typical or preferred flow pattern. The change may simply be the result of attracting more community college students into the system or less need for institutions to admit transfers, during recent "good times." Or, considering the fiscal crisis in New York City and the drop in City University's transfers, the slightly lower rate of increase upstate may be insignificant. During a tighter economy and in the face of increased competition among institutions, as is expected soon, the number of transfers may rise. Futher analyses of this topic are needed.

CHAPTER IV

ILLUSTRATIVE APPLICATONS OF THE MODEL

Many simulation runs have been made using the basic methodology which has been described in Chapter II. Four are described here to illustrate the model and its use. The first, or baseline run, was designed to illustrate the impact of fairly certain changes in the pools of prospective students -- high school graduates and adult population groups. It assumes recent trends in participation, grade progression, migration and retention patterns will continue in the future. It is a baseline from which changes in society will produce variations. The second run illustrates the joint effect of a number of assumed changes in underlying factors -- one possible future. It suggests likely enrollments given what SED staff feel is a plausible future. Comparison of the two runs helps to illustrate the degree of uncertainty which exists when attempting to assess future enrollments. Sufficient information is provided in this report for the reader to estimate how much difference a slightly different assumption might make in the simulated enrollment levels. The third and fourth runs were produced to investigate the sensitivity of the Model to changes in the proportion of institutions classified as higher or lower draw. The results are intriguing.

A complete summary is presented for full-time undergraduates and is followed by the summary for part-time and graduate enrollments. The discussion begins with the basic assumptions underlying each run and then presents the numerical results. The last section compares and discusses the results of the runs which altered drawing power classifications.

BASE LINE ASSUMPTIONS FOR FULL-TIME UNDERGRADUATES

I. High School Graduate and Population Projections

Projections of population by age group for each Regents Region were developed by the New York State Department of Commerce and provided to the New York State Education Department in late 1978. The age groups used were 20-24, 25-29 and 30-44. High School graduate projections were developed by the Department's Information Center on Education and released in February 1978. The high school graduate projections used in the Model assumed that recent rates of out-migration would level off to halfway between 1974 and 1976 levels by 1989. This was done by averaging the projections released in 1976 and 1978 through the projection for 1989. After 1989 the adjustment was held constant and amounted to a 6.7 percent increase in the high school graduate projections over the figures obtained assuming continued high out-migration.

II. Participation Rates

Regional participation rates by age group were estimated using 1975 freshman age distribution data and 1977 residence and migration data (the most recent available). These rates were adjusted to match preliminary 1978 regional freshmen enrollments and were then held constant at an average of 1977 and 1978 rates for all future years. No significant change in overall freshman participation appears to have occurred in 1978. Despite preliminary data showing that New York City experienced a decline in freshmen enrollment and Buffalo and Long Island experienced increases, the actual rates of participation do not seem to have changed. Shifts in the size of regional high school graduate pools and in residence and migration patterns account for the changes in enrollment levels.

Out-of-state participation was determined by taking as the base a weighted average of high school graduate and population groups with the high school

graduates weighted 4 and each of the population age groups weighted 1. This essentially assumes that 80 percent of out-of-state students are recent high school graduates.

III. Distribution of Freshmen

Based on weighted average residence and migration data and on projected drawing power classifications, freshmen were distributed to each institution separately for each age group as described in the methodology chapter. Residence and migration data for years 1975-1977 was weighted 1, 1, 3 and was constructed for each age group by assuming that the older groups would be progressively more local in their attendance patterns. For students ages 20-24, the average proportion of enrolled freshmen coming from the institution's home region (i.e., home share) was assumed to be the same as the overall home share. For ages 25-29 the home share was increased half of the way to 1.0. For the oldest group, the home share was increased another two-thirds, toward 1.0, and for the youngest group, the home share was determined by students remaining from the residence and migration regional totals. As a result the high school graduate group tended to be drawn from a larger area than the older groups. Freshman age distributions at each institution were obtained from 1975 data. Averages for institutional types were used when institutional data were missing.

The constructed residence and migration patterns were assumed constant for all future years. However, drawing power classifications were allowed to vary and base year freshman counts were shifted to the preceding year's level as the projection was made for each future year.

IV. Flow Patterns

Base year lower division and transfer levels were made more stable by using an average of two historical levels rather than only the most recent level. Using 1977 data, the upper division transition ratio was based on whether transfers were entering upper or lower division rather than simply total transfers.

Preliminary 1978 data were used to estimate institutional sophmore transition ratios and sector/type upper division transition ratios. Declines in these ratios were responsible for most of the declines observed in full-time undergraduate preliminary enrollments in 1978. Adjustments were made to match the 1978 projections with actual 1978 enrollments, and half of the decline from a weighted average of previous year's data was assumed for all future years.

ONE POSSIBLE FUTURE ASSUMPTIONS

The scenario described below is provided to serve two purposes. First, it illustrates the kinds of assumptions which can be made and estimated in quantitative terms to use in simulating future enrollments. Second, it provides a basis on which to focus discussions of future events that may impact on higher education enrollments in the future. This particular scenario is an initial effort and many of the assumptions are based on insufficient evidence. The simulation is nevertheless a serious one that can serve as a basis for discussion. The baseline assumptions were a starting point for this scenario. They apply unless a specific modification is described.

I. Prospective Student Pools

Net out-migration from the State should lessen in the next ten years as equilibrium is reached, unless some new negative influence occurs in the State. However, an expected increase in the proportion of elementary and secondary students from families of lower socioeconomic groups may result in higher dropout rates. For this example, it is assumed that the two influences cancel each other. These conditions were estimated by assuming that 1978 elementary-secondary grade progression ratios are appropriate for the next three years (until 1981) but the high school graduate projections released in 1978 are appropriate thereafter. The

baseline population projections assume net emmigration at the average of 1974 and 1976 levels by 1989. This assumption was applied for this analysis with one modification. A 1.5 percent decline beyond that predicted was observed in actual 1978 school enrollments. This decline, which suggests accelerated emmigration from the State, was incorporated in the population and high school graduate projections.

II. Participation Rates

Based on the factors described in College Participation in New York State, a small decline is expected by 1990 in the proportion of high school graduates continuing on to college, immediately after high school. A number of factors should have small influences, but four are likely to have substantial impact. Factors leading toward lower enrollments will be the increased proportion of low socioeconomic groups among high school graduates, a tight economy and the relatively greater demand of the military for recruits. A factor encouraging higher enrollments is the increasing educational level of families at all socioeconomic levels. It is assumed that financial aid programs will be sufficiently maintained to compensate for the expected increase in educational costs and a tight economy. The net impact of all these factors is assumed to be a small decline in the participation rates. For this analysis, the decline was assumed to be -1.5% statewide by 1990 from the 1978 historical level.

For adult groups attending full-time, the population composition and military demands are probably less important. However, due to improved access to higher education and a decade of high expected return on college attendance (which encouraged adult attendance) it is possible that a saturation point will be reached in terms of serving adults who lacked opportunity or desire in the past. The average educational level is considerably higher than it was a decade ago, which suggests a lower need for education among the population. Of course, it is argued

by some that education encourages more education. While this may be true for part-time participation, the need for full-time participation may actually be diminished. For this example, the adult rates are lowered from 1978 levels by 2 percent in 1983 and 4 percent thereafter. This arbitrarily assumes that the proportion of entering students choosing part-time and full-time attendance will be altered by 1982 because of incentives accompanying an introduction of part-time TAP by 1982 (discussed below).

III. Distribution Patterns

It is assumed that the primary factors influencing the distribution of students in the future will be areas of program interest that are "in fashion" and the general reputation or perceived desirability of individual institutions. Cost differentials between the sectors are not expected to change substantially. The increase in the proportion of students from lower socioeconomic groups and the increased interest of students in job focussed training may help two year institution's, but most "higher draw" institutions in the current model are 4-year institutions. This results in 4-year institutions attracting some of the students that would attend 2-year institutions under current conditions. Four-year institutions should come closer to holding their own, resulting in a small enrollment share loss for 2-year institutions. Most institutions are likely to experience substantial changes in the compositional characteristics of their students. Certain specialized and small institutions could also experience difficulties perhaps to the benefit of other similar types of institutions, nearby institutions, and 4-year public institutions. No changes in the distribution procedures were made although the actual distributions did change some.

IV. Flow Patterns

An increase in the proportion of students from lower socioeconomic backgrounds may result in less perserverance in higher education on the average. On

the other hand, tight economic conditions and job markets could convince more students that completing their degree program is the best alternative. Another factor that may have a negative influence on retention is related to an expected increase in competition for transfer students. If it happens, this may increase the total number of transfers in the system. The magnitude of these changes is very uncertain. In this simulation it is assumed that a 12 percent increase in transfers statewide will occur by 1983 from the average of 1976 and 1977 levels. A 12 percent increase converts to about 5,000 students or only about one percent of the sophomores, juniors and seniors in the State. A large increase actually occured between 1976 and 1977 suggesting that the predicted trend may already be underway. The upper division transition ratio will also be reduced as a larger proportion of students transfers between institutions. Transition ratios will probably also be lowered by an increase in dropouts related to the increase in the proportion of students from lower socioeconomic groups. In this example, it is assumed that the sophmore transition ratio will be 2 percent lower by 1985 and the upper division transition ratio will be 4 percent lower by 1985 from the 1978 levels.

Figure 9 summarizes the baseline and possible future assumptions made for the full-time undergraduate simulations.

SIMULATED FULL-TIME UNDERGRADUATE ENROLLMENTS

Summary

- Confirmation of earlier projections of large enrollment declines
- By 1990, declines of 15-25 percent from 1978 levels, 20-35 percent by 1994 (124,000-175,000 students statewide).
- The possibility of a 50,000 plus decline in a single 3-year period (1983 to 1986).
- Disrupting shifts in the ability, program interests and motivation characteristics of students for almost all institutions

FIGURE 9

SIMULATION ASSUMPTIONS FOR FULL-TIME UNDERGRADATES

Factor	Baseline Assumptions	One Possible Future Assumptions
Prospective Student Pools	Stable grade progression but reduced net emmigration from the State to mean of 1974 and 1976 levels by 1989 (1978 projections).	Same as Baseline but reduced to incorporate The 1.5% decline observed in 1978 school enrollment (beyond the decline predicted).
High School Graduate Participation	Mean of 1977 and 1978 rates	Down from mean levels by 1.5% by 1980.
Adult Participation	Mean of 1977 and 1978 rates	Down 2% from mean level by 1983 and 4% thereafter
Distribution Patterns	Higher and lower draw institutions identified from admissions and migration data. Allocation rules specified in methodology chapter. Emphasizes capability for lowering selectivity to maintain enrollment levels.	Same as Baseline
Transfers	Projected to follow the same curve as the projected lower division for year K-1.	Baseline results were adjusted upward by 12% by 1983.
Sophomore Transition	7-year weighted average (weights = 1,1,2,3,5,10,22)	Down 2% by 1985 from Baseline
Upper Division Transition	5-year weighted average (weights = 1,1,2,4,8)	Down 4% by 1985 from Baseline

- A small increase in enrollment share for 4-year institutions
- An older student body; approximately 74 percent of the freshmen less than 20 years of age in 1990 compared to 81 percent in 1978. Approximately 9 percent greater than or equal to 30 years of age compared to 5 percent in 1978. Also a slightly less wealthy and less academically well-prepared student body.
- Full-time undergraduates may drop from 58 percent of total head count enrollments in 1978 to less than 50 percent in the 1990's.

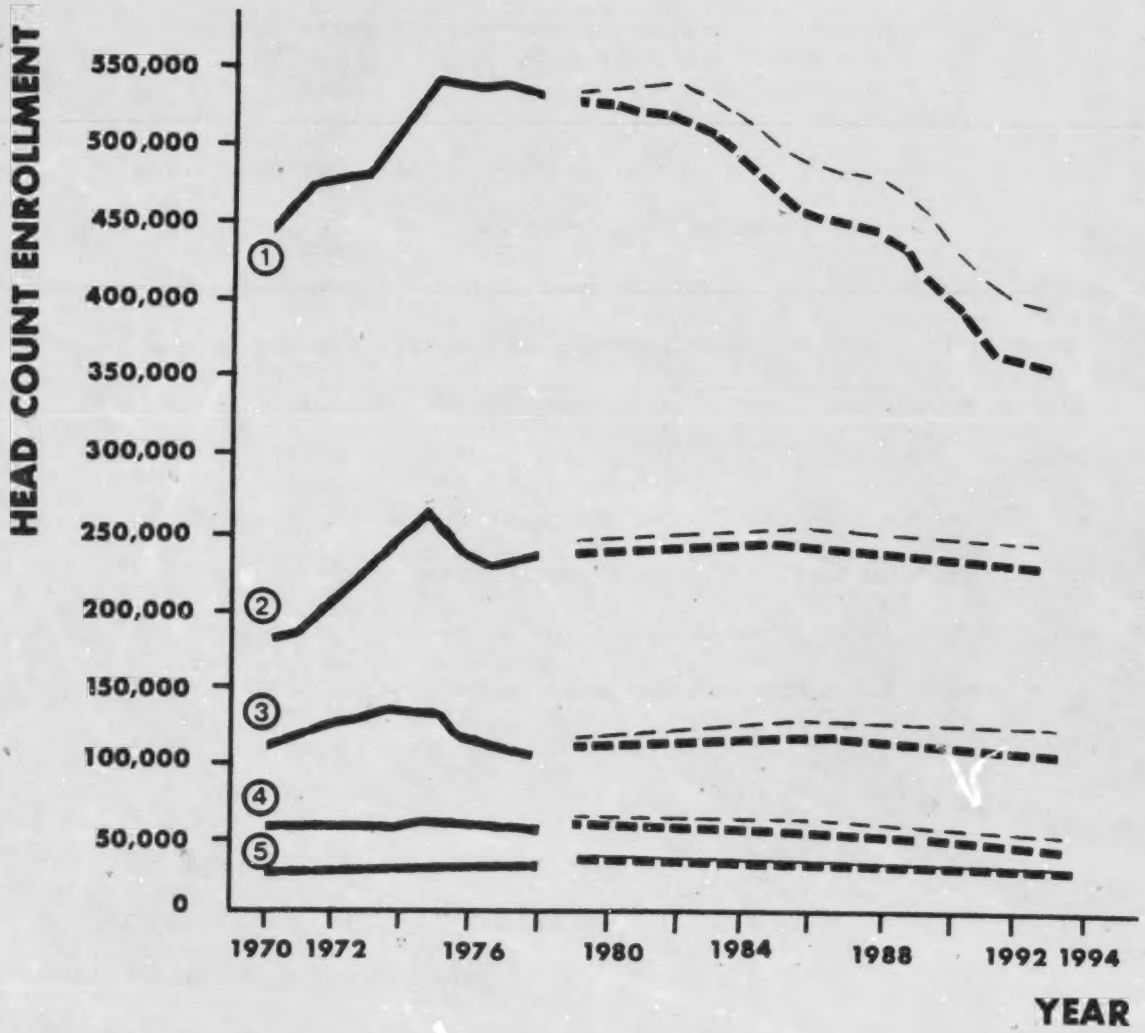
Graphical and numerical summaries of the results of both simulation runs for all types of enrollments are provided in Figure 10 and Table 4. The results for the baseline run are somewhat higher than the projections provided in the 1978 Progress Report. This is due to the use of several age-related population bases rather than relying solely on high school graduates or on a total population pool to project enrollments. Several minor methodological changes also had a small influence. The baseline figures are considered to be quite optimistic.

The statewide results for the "one possible" future run are quite similar to those presented in the 1978 progress Report. The one possible future is based on a plausible set of assumptions. Of course, changes in aid programs, social trends and other factors can affect participation in higher education in dramatic ways. Actual enrollments could fall outside of the two curves shown here, although that is not expected.

Full-time undergraduates are expected to decline slowly through 1982 after which a sharp decline should occur through 1986 or 1987. In general, it appears that the "average" institution may plan for a short "breather" during 1988 and 1989 to be followed by another five-year period of precipitous decline. The management difficulties associated with these declines in numbers will be compounded by the changing compositional characteristics of the students. Analyses of individual institution position within the competitive system of institutions will be extremely important for effective planning.

FIGURE 10

NEW YORK STATE
Higher Education Enrollment Projections



SOURCE: NYSED: Postsecondary Information Systems

TABLE 4
HISTORICAL AND PROJECTED ENROLLMENTS IN NEW YORK STATE

Historical	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Total First-Professional
1970	439,726	168,656	40,799	99,081	16,128
1971	467,144	174,640	42,656	105,455	16,863
1972	473,199	195,417	42,770	112,937	17,430
1973	491,621	219,385	43,823	118,668	17,685
1974	514,587	234,802	45,079	124,203	18,331
1975	549,374	256,086	46,675	123,608	18,835
1976	538,147	228,131	45,568	105,687	20,150
1977	542,643	225,385	45,613	101,600	21,618
1978 Preliminary	537,114	228,928	45,186	97,890	22,907

Projected	A[1]	B[2]	A[1]	B[2]	A[1]	B[2]	A[1]	B[2]	A[1]
1979	541*	539*	229*	229*	46*	45*	100*	99*	23*
1980	544	536	235	230	47	46	102	100	23
1981	545	532	236	228	47	45	103	99	23
1982	545	525	237	247	47	45	104	99	23
1983	538	513	239	231	47	45	105	100	23
1984	526	496	240	231	47	44	107	100	23
1985	512	477	242	235	48	45	108	103	23
1986	497	460	240	233	47	44	107	102	23
1987	487	448	239	231	47	44	107	101	23
1988	486	444	238	229	46	43	107	101	23
1989	478	434	237	227	46	43	107	100	23
1990	458	414	236	226	45	42	107	100	23
1991	438	393	234	223	44	41	105	98	23
1992	421	378	232	220	43	40	104	96	23
1993	412	368	230	218	43	39	103	95	23
1994	408	363	229	215	42	38	101	93	23

[1]A = Baseline Assumptions
[2]B = One Possible Future Assumptions

*In thousands.

SOURCE: NYSED: Postsecondary Information Systems (GLR/26 Apr 79).

TABLE 5
ONE POSSIBLE FUTURE FOR FULL-TIME UNDERGRADUATES

	Preliminary 1978	Year 1980	1982	1984	1988	1992
Sector/Type						
State University	207,381	211,000	205,000	191,100	174,000	144,500
4-Year[1]	106,381	109,800	107,300	101,700	91,900	79,700
Agricultural and Technical	20,371	20,500	20,000	18,600	17,600	14,700
Community College	80,764	80,700	77,700	70,700	70,800	50,100
City University	111,264	110,100	110,300	105,700	91,300	77,100
Senior Colleges	65,928	66,700	67,200	63,600	54,300	49,200
Community Colleges	46,736	43,400	43,100	42,000	36,900	27,900
Independent	201,766	199,000	195,000	183,900	164,000	142,300
Proprietary	15,168	15,400	15,300	14,900	14,600	13,600
Level						
4-Year	377,047	378,400	372,400	352,700	313,400	273,600
2-Year	160,067	157,100	152,900	142,800	130,440	103,900
Region						
Western	56,571	55,500	52,300	47,900	42,000	33,900
Genesee Valley	38,984	38,200	37,400	34,800	31,600	26,100
Central	74,370	74,100	72,700	68,500	63,400	55,500
Northern	13,371	13,500	13,300	12,500	11,500	10,000
Northeast	51,939	52,300	51,500	48,600	44,800	38,900
Mid-Hudson	50,168	51,600	50,700	47,400	42,100	34,700
New York City	190,159	184,200	182,100	173,800	150,700	127,700
Long Island	61,552	66,000	65,300	62,100	58,000	50,800
TOTAL	537,114	535,500	525,300	495,500	443,800	377,500

[1]Four-Year Community Colleges are included in the community colletge total (i.e., Fashion Institute of Technology).
SOURCE: NYSED: Postsecondary Information Systems (GLR/14 May 79).

The detailed figures for institutional sectors, levels, types and regions are provided in Appendix B. Selected results from the "one possible future" run are provided in Table 5 and Figure 11. The regional simulation results indicate substantial differences among the regions. By 1992 the declines range from over 17 percent for Long Island to as much as 40 percent for the Buffalo region. It appears that the New York City, Mid-Hudson and Genesee Valley regions will also experience greater than average declines.

The spread shown between the regions, sectors and levels on these graphs is probably greater than will actually occur. The differences shown here are what would occur if regional demographic and current drawing power patterns were the only important factor. However, it is reasonable to assume that institutions in areas of greatest population or prospective student pool decline will respond move quickly to adapt and to attract students from other areas. A small leveling effect will probably result.

A small leveling effect may also occur for the sector and level differences as well. Four-year institutions are expected to decline somewhat less than two-year institutions, and proprietary institutions are expected to decline the least.

The changing age distribution of students (Table 6) may also have an important impact on many institutions.

TABLE 6

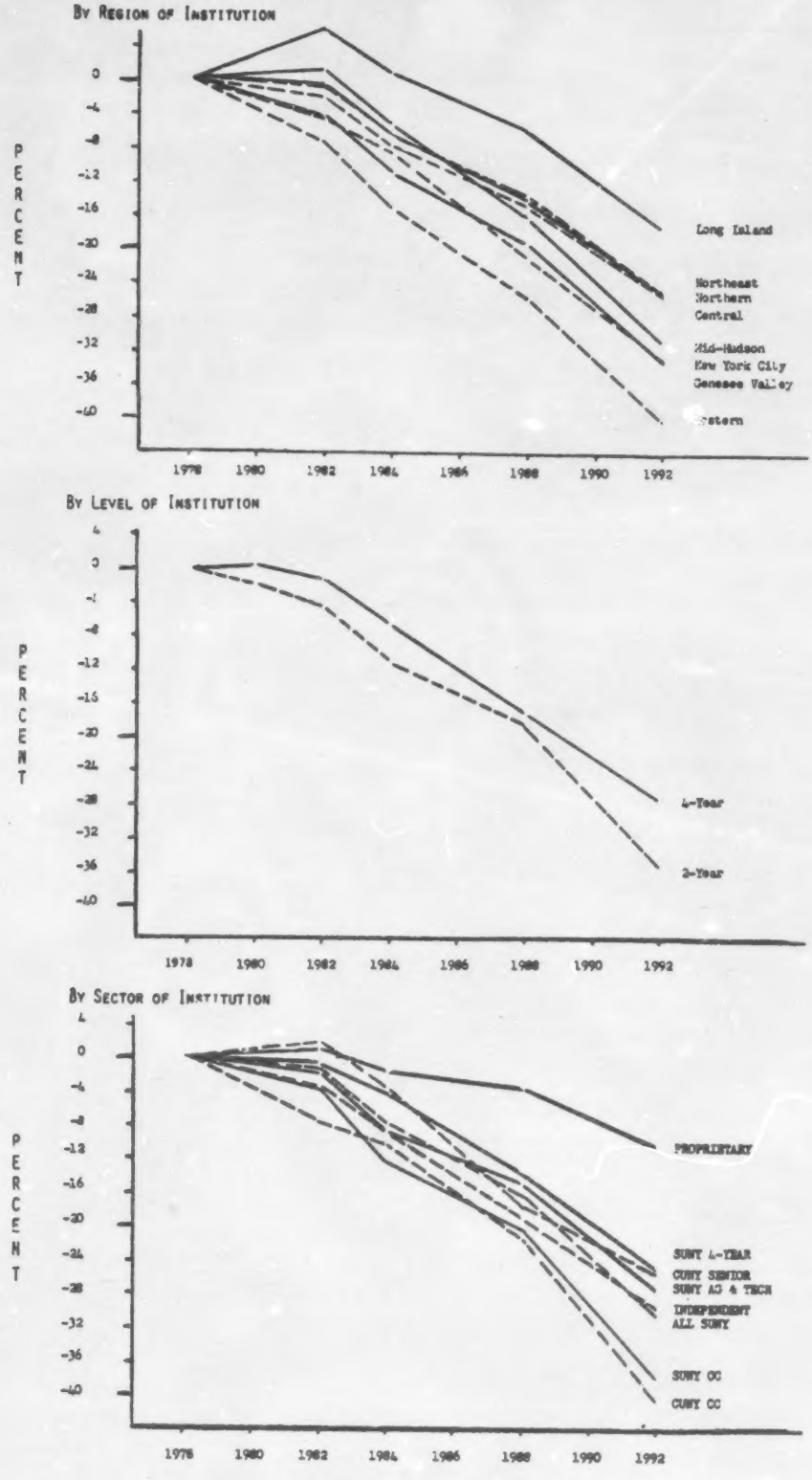
BASELINE PROJECTED FULL-TIME, FIRST-TIME STUDENTS

	Ages			
Year	≤ 19	20-24	25-29	30+
1978	80.6%	10.0%	4.4%	5.1%
1990	73.9%	10.9%	6.3%	8.9%

Source: NYSED: Postsecondary Information Systems.

FIGURE 11

PERCENTAGE CHANGE PROJECTED FOR NEW YORTK STATE
FULL-TIME UNDERGRADUATE ENROLLMENT



[1] PRELIMINARY PROJECTIONS BASED ON ONE POSSIBLE SET OF ASSUMPTIONS.

SOURCE: NYSED: POSTSECONDARY INFORMATION SYSTEMS (GLR 25/MAY/79)

The proportion of freshmen equal to or greater than 25 years of age may increase nearly 60 percent by 1990. The baseline projections show a change from 9.5 percent to 15.2 percent of the freshmen. Coupled with the shift in program interests to more job-related areas and to a less wealthy and academically prepared student body, significant adjustments will be required in many institutions.

BASELINE ASSUMPTIONS FOR PART-TIME AND GRADUATE ENROLLMENTS

I. Population Projections

As previously described, Regents Region projections of population by age group were developed by the New York State Department of Commerce and provided to us in early fall 1978. The six age groups used for these simulations were 15-19, 20-24, 25-29, 30-34, 35-44 and 45-59. The projections used by the Model assumed that recent high rates of emmigration would level off to halfway between the 1974 and 1976 levels by 1989.

II. Participation Rates

The 1977 enrollments in a region by age group were used to estimate the proportion of enrollments from a region for each age group. These proportions were assumed when calculating participation rates for 1977. The participation rates were adjusted uniformly across age groups to conform to total preliminary 1978 enrollments. These rates were held constant for all future years. Estimated changes in the rates from 1977 levels are as follows:

Part-time undergraduates up 0.35%

Full-time graduates down 1.1%

Part-time graduates down 4.8%

These changes reflect actual 1978 participation.

III. Distribution From Regions to Institutions

Projected enrollments for each age group were summed to obtain the total projected enrollment coming from each region. A weighted average of the 1975-1977 total residence and migration data was used to generate institutional enrollment shares for students coming from each region. These shares were adjusted by sector to conform to 1978 preliminary enrollments. For 1979 and all future years only 1/2 of the 1978 change was assumed; this is essentially using a four-year weighted average. No major differences were assumed in the residence and migration patterns for students in the different age groups.

"ONE POSSIBLE FUTURE" ASSUMPTIONS FOR PART-TIME AND GRADUATE STUDENTS

Part-Time Undergraduates

I. Prospective Student Pools

The same population asumptions will be applied as were described for the baseline run.

II. Participation Rates

The increasing average level of education among the population may encourage high levels of participation in higher education while the tight economy and labor market may tend to inhibit part-time participation. It is assumed that the economy will have a slightly greater impact for several years to come but that by 1982 some form of part-time tuition assistance program will be introduced. Consequently the participation rates will gradually be lowered a total of 2.0 percent by 1982 and will return to 1978 levels thereafter.

III. Distribution Patterns

Competition between institutions may shift distribution patterns somewhat and will probably overshadow the impact of a tight economy. Lacking information to assess competition and its impact on distribution shifts, historical distribution patterns will be retained for this analysis.

Graduate Students

I. Prospective Student Pools

The same population assumptions will be applied as for the baseline run described.

II. Participation Rates

Depressed job markets and economic conditions appear to have been negatively affecting both full-time and part-time graduate participation during the last three years. Part of the impact has probably been a shift of more part-time students to full-time status in order that they might complete programs sooner. These conditions have probably also encouraged more full-timers to finish rather than drop out. The conditions bringing on these changes appear to be stabilizing (depressed markets and economy) and the adjustment period should be ending. When it does, both full-time and part-time participation rates are expected to decline slightly (2 percent) from 1978 levels leaving a smaller gap between full-time and part-time participation than had existed before. New York State has over twice as many part-time as full-time graduate students. An equal percentage decline in participation rates results in a greater absolute decline for part-time graduate students and a smaller difference in actual enrollments.

III. Distribution Patterns

For the next decade, graduate students are likely to continue seeking the more job-related programs. It is assumed that by 1982 enrollments will have shifted another 3 percent toward those programs but that few shifts between institutions will be observed.

FIGURE 12

SIMULATION ASSUMPTIONS FOR PART-TIME AND GRADUATE ENROLLMENTS

Factor	Baseline Assumptions	One Possible Future Assumptions
Population Pools	Stable grade progression but reduced net emmigration from the State to mean of 1974 and 1976 levels by 1989 (1978 projections).	Same as Baseline but reduced to incorporate the 1.5% decline observed in 1978 school enrollment (beyond the decline predicted).
Part-Time Undergraduate Participation	1978 levels	Down 2% by 1982 up to 1978 levels thereafter
Part-Time Undergraduate Distribution	Weighted average of 1975-1978 shares of enrollment.	Same as Baseline
Graduate Student Participation	1978 levels	Down 2% by 1981
Graduate Student Distribution	Weighted average of 1975-1978 shares of enrollment.	Same as Baseline

Figure 12 summarizes the baseline and possible future assumptions applied for the part-time and graduate simulations.

SIMULATED PART-TIME AND GRADUATE ENROLLMENTS

Summary

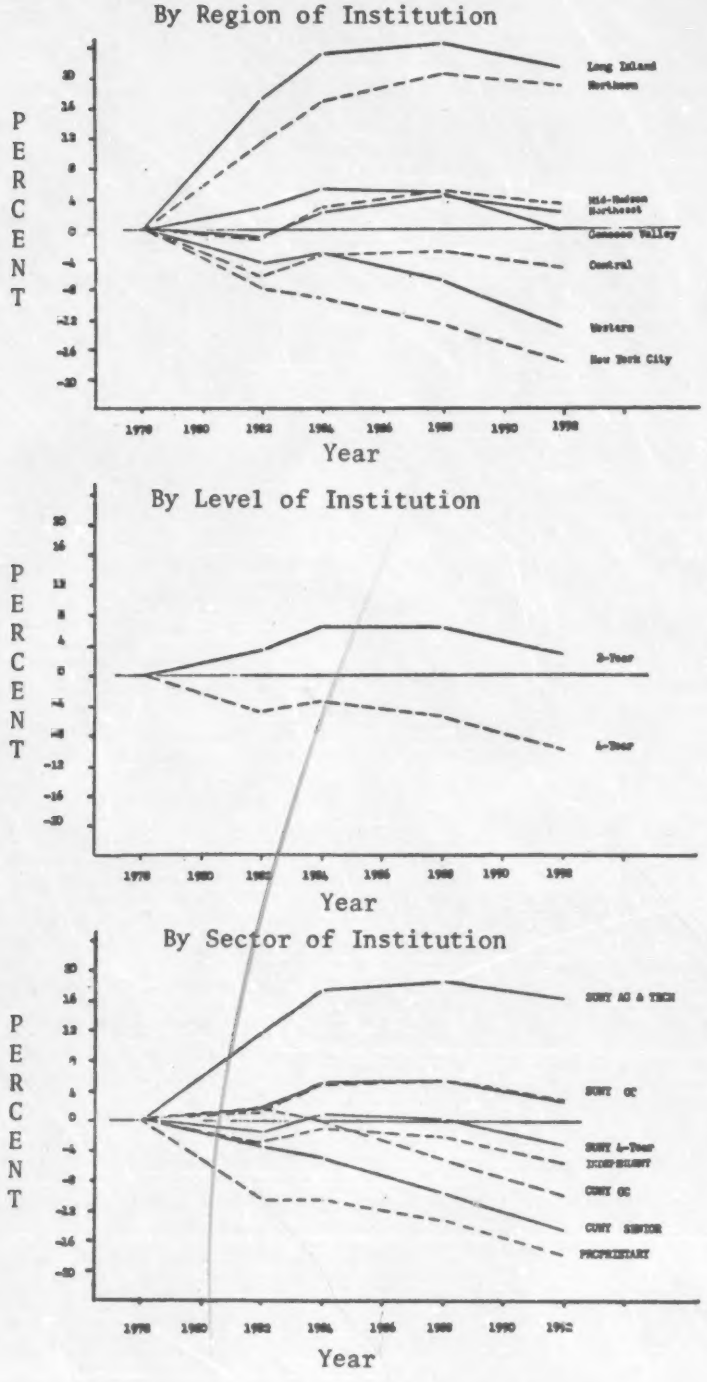
- Relatively stable statewide enrollments, declining slightly beginning in the latter 1980's and continuing downward in the early 1990's.
- Considerable uncertainty regarding these types of enrollments due to significant and frequently unstable economic and social changes underway in our society, to the possibility of substantial student aid changes and to lack of information regarding the effectiveness of increased marketing efforts in reaching underserved prospective student pools.
- Substantial differences for institutions located in different regions or drawing students from regions with different demographic trends.

Statewide, part-time undergraduate (PTUG) enrollment levels are expected to be only about five percent lower by the early 1990's. The population groups from which part-time undergraduates are drawn are still peaking and will not decline substantially for some time. However, the regional picture is much different because of demographic differences across the State. The Long Island and Northern Regents regions could experience declines of much as 20 percent while the New York City and Western regions could experience declines of between 15 and 20 percent. A leveling effect across regions is not as likely to occur for part-time undergraduates. Recall that no drawing power adjustments were made when distributing students for part-time undergraduate and graduate simulations.

Table 7 and Figure 13 show that 2-year institutions may experience a small increase in PTUG enrollments while the 4-year institutions decline a corresponding

FIGURE 13

PERCENTAGE CHANGE PROJECTED FOR NEW YORK STATE
PART-TIME UNDERGRADUATE ENROLLMENT[1]



[1]One possible future assumptions.

SOURCE: NYSED Postsecondary Information Systems (GLR 25/May/79). -60-

TABLE 7
ONE POSSIBLE FUTURE FOR PART-TIME UNDERGRADUATES

	Preliminary 1978	Year 1980	1982	1984	1988	1992
Sector/Type						
State University	107,063	108,500	108,600	112,500	113,100	110,000
4-Year[1]	19,453	19,200	19,100	19,600	19,500	18,800
Agricultural and Technical	8,429	9,300	9,400	9,900	10,000	9,800
Community College	79,181	80,000	80,100	83,000	83,600	81,400
City University	50,660	52,300	49,900	49,100	46,800	43,700
Senior Colleges	29,028	29,300	28,000	27,600	26,300	24,500
Community Colleges	21,632	23,000	21,900	21,600	20,500	19,200
Independent	64,504	63,300	62,500	63,800	63,200	60,900
Proprietary	6,701	6,200	6,000	6,000	5,820	5,500
Level						
4-Year	123,939	120,800	118,200	119,500	117,100	111,800
2-Year	104,989	109,400	108,800	111,900	111,800	108,200
Region						
Western	18,349	17,900	17,500	17,700	17,100	15,900
Genesee Valley	16,840	17,400	17,300	17,700	17,600	16,800
Central	15,571	14,700	14,600	15,000	15,100	14,700
Northern	1,454	1,600	1,620	1,700	1,750	1,730
Northeast	22,341	22,200	22,100	22,800	23,300	22,900
Mid-Hudson	28,765	28,100	28,300	29,500	30,100	29,800
New York City	87,253	83,900	80,400	79,600	76,200	71,600
Long Island	38,355	44,400	45,000	47,300	47,700	46,500
TOTAL	228,928	230,200	227,000	231,400	228,900	220,000

[1]Four-Year Community Colleges are included in the community college total (i.e., Fashion Institute of Technology).
SOURCE: NYSED: Postsecondary Information Systems (GLR/14 May 79).

percentage. These differences are due to the regional variations in demographic trends. The regions where institutions of each level or sector draw their students from determines the nature of the enrollment curve for each level or sector.

Sector differences are also significant. Part-time undergraduate enrollments are quite stable in the State University, decline slightly in the Independent sector and decline from 8-16 percent for City University and Proprietary sectors. The SUNY Agriculture and Technical schools show a large increase. This is an artifact due to one agriculture and technical school in the Long Island region, which for the relevant age group is projected to have considerable growth. The other Ag and Tech schools are simulated to have relatively stable PTUG enrollment levels.

The City University does not decline as much as the New york City Regional figures. It should also be noted that the adjacent regions, Mid-Hudson and Long Island, are projected to have population increases in the relevant age groups. City University has typically drawn enough students from these regions to moderate what would otherwise be a very large decline.

Statewide, the full-time graduate (FTGR) enrollment simulations are stable through 1985 and then decline 15 percent by 1994. Job markets in particular may impact on full-time graduate enrollments in ways which have not been anticipated by these simulations (Table 8 and Figure 14).

Most full-time graduates are drawn from somewhat older population pools than are part-time undergraduates. The demographic projections indicate enrollment increases for the Northern and Mid-Hudson regions and large declines for New York City. Since New York City has a substantial number of the more prestigious graduate programs, the declines for that region may not actually be as large as those projected here. The large increase in the Northern region should also be interpreted with caution; the absolute number of students in that region is quite small, so a large percentage increase does not involve many students.

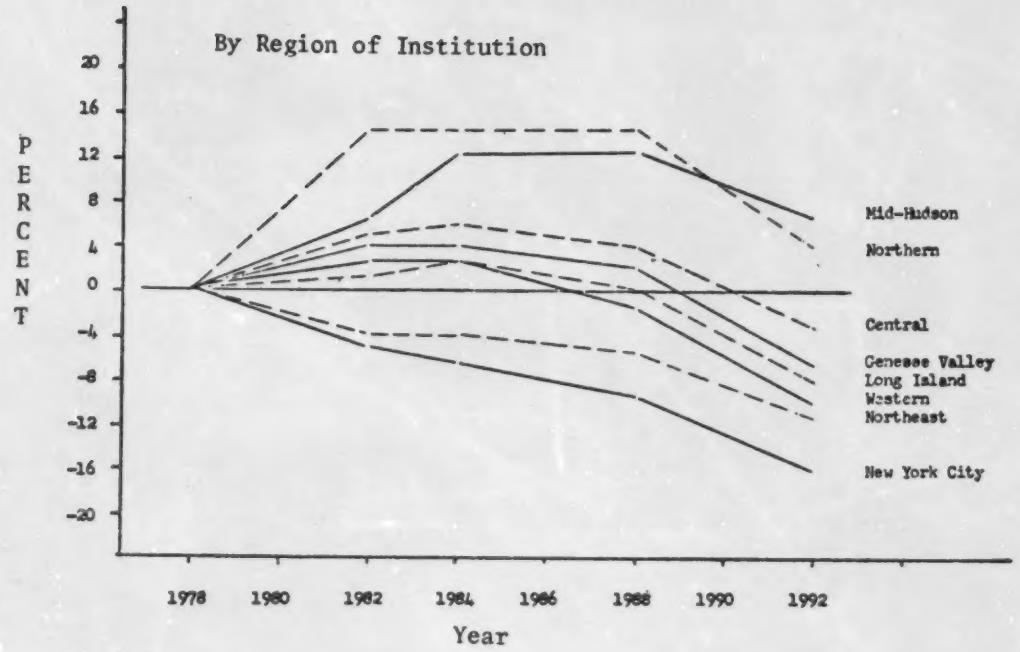
TABLE 8
ONE POSSIBLE FUTURE FOR GRADUATE STUDENTS

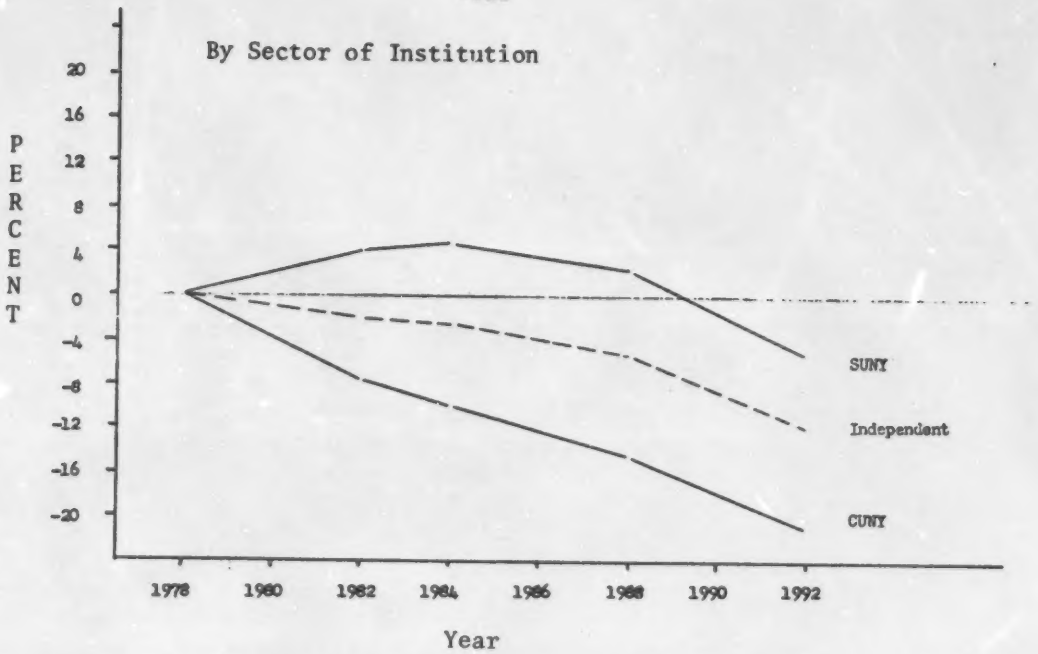
	Preliminary 1978	Year 1980	1982	1984	1988	1992
FULL-TIME						
Sector						
State University	10,602	11,100	11,050	11,100	10,850	10,050
City University	4,605	4,400	4,250	4,150	3,950	3,650
Independent	29,979	30,000	29,450	29,250	28,450	26,400
Region						
Western	3,554	3,700	3,650	3,650	3,500	3,200
Genesee Valley	2,353	2,450	2,450	2,450	2,400	2,200
Central	7,596	8,100	8,000	8,050	7,900	7,350
Northern	288	340	330	330	330	300
Northeast	3,329	3,200	3,200	3,200	3,150	2,950
Mid-Hudson	844	900	900	950	950	900
New York City	23,474	23,000	22,350	22,000	21,250	19,700
Long Island	3,748	3,800	3,800	3,850	3,750	3,450
TOTAL	45,186	45,500	44,700	44,500	43,200	40,100
PART-TIME						
Sector						
State University	19,217	20,700	20,950	21,500	22,000	21,300
City University	11,171	11,750	11,400	11,150	10,800	10,100
Independent	67,502	67,200	67,100	67,800	68,000	65,000
Region						
Western	4,618	7,150	7,150	7,200	7,200	6,850
Genesee Valley	5,544	6,050	6,100	6,200	6,300	6,050
Central	7,277	7,650	7,750	7,950	8,200	8,000
Northern	899	850	900	900	950	900
Northeast	6,833	6,950	7,000	7,200	7,450	7,300
Mid-Hudson	6,678	5,700	5,850	6,050	6,300	6,250
New York City	50,931	48,600	47,600	47,250	46,400	43,750
Long Island	15,110	16,700	17,100	17,700	18,000	17,200
TOTAL	97,890	99,600	99,400	100,400	100,800	96,400

SOURCE: NYSED: Postsecondary Information Systems (GLR/14 May 79).

FIGURE 14

PERCENTAGE CHANGE PROJECTED FOR NEW YORK STATE
FULL-TIME GRADUATE ENROLLMENTS[1]



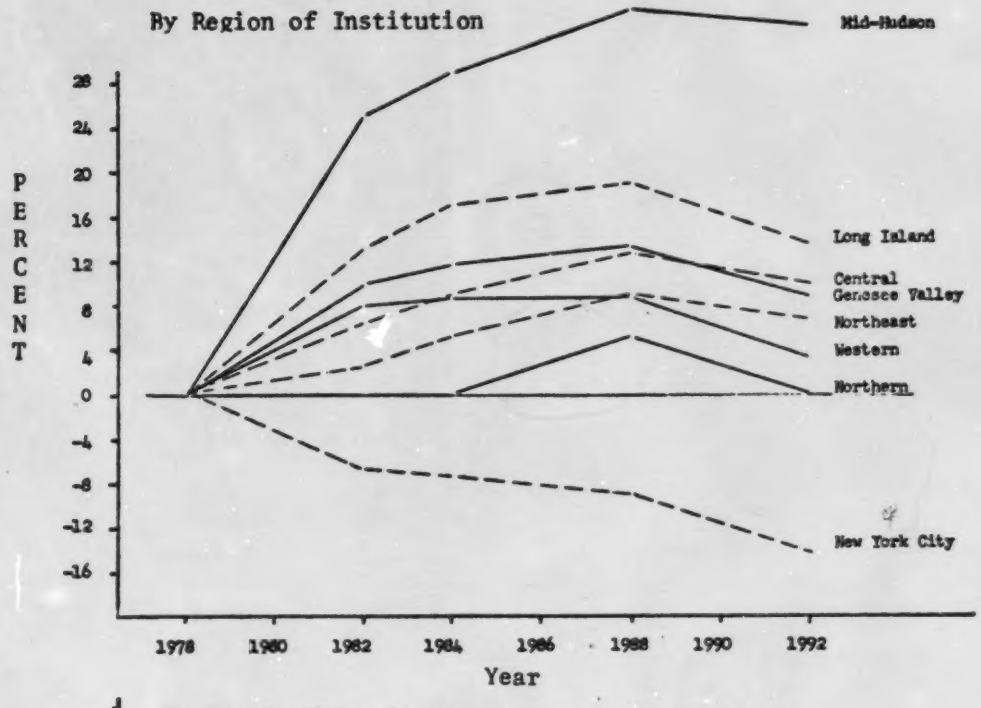


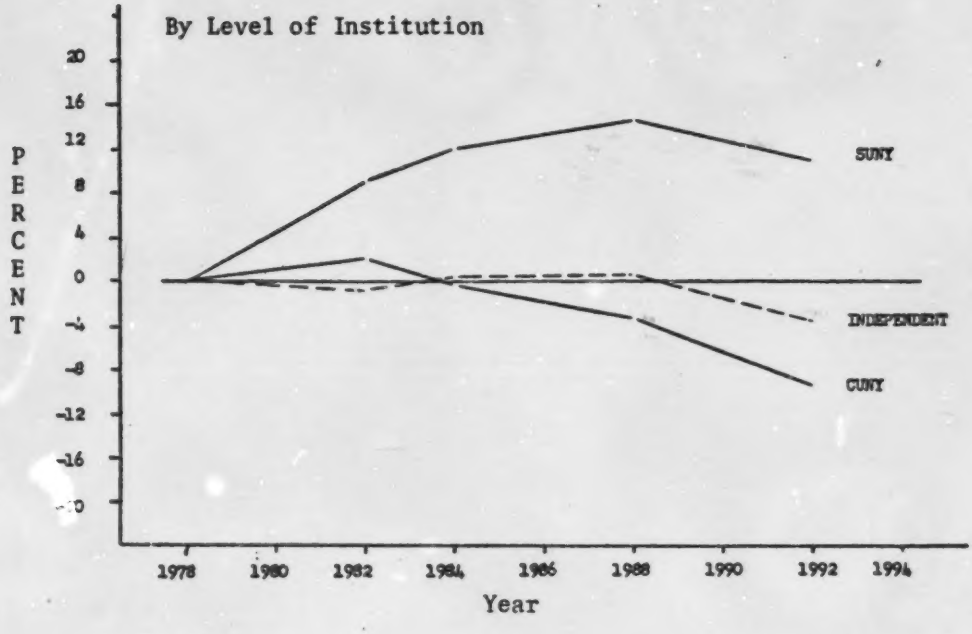
[1]One possible future assumptions.

SOURCE: NYSED: Postsecondary Information Systems (GLR 25/May/79).

FIGURE 15

PERCENTAGE CHANGE PROJECTED FOR NEW YORK STATE
PART-TIME GRADUATE ENROLLMENT[1]





[1]One possible future assumptions.

SOURCE: NYSED: Postsecondary Information Systems. (GLR 25/May/79).

The sector curves for FTGR also show differences. More SUNY graduate programs are located in the more stable regions. Consequently it would seem tht SUNY may not experience a decline from 1978 levels until after 1988. The independent sector is more influenced by the New York City population; a greater decline is indicated (up to 12 percent). City University may be hit hardest with up to a 20 percent decline in full-time graduates.

Part-time graduates are drawn primarily from a slightly different age group and may actually increase a small amount in the State by 1985. By 1994, a 6 percent decline from 1978 levels is anticipated using the one possible future assumptions. Regionally, greater differences occur for part-time graduates than for full-time graduates. Extremely large increases are shown for the Mid-Hudson region (over 30 percent) and all regions except New York City were increasing through 1988 (See Figure 15). Declines of 2 to 6 percent occurred for all regions between 1988 and 1992. New York City enrollments may decline by as much as 14 percent based primarily on the demographic influences.

Once again State University is favored by the location of its campuses. A 14 percent increase is shown by 1988 after which a small decline is projected. The independent sector remained quite stable and City University declined between 1984 and 1992 by 9 percent.

PROJECTIONS OF FULL-TIME EQUIVALENT STUDENTS

It is often suggested that increases in part-time and adult enrollments may help to offset the decline expected in enrollment from the traditional age groups. Such comments remind us that the aggregate enrollment level and composition of students at an institution are for some purposes perhaps a more useful perspective than viewing each type of enrollment prospect separately. Tables 9 and 10

TABLE 9
FULL-TIME EQUIVALENT ENROLLMENTS AND ENROLLMENT SHARES[1]

Actual 1978, One Possible Future 1992

	Enrollments			Shares		
	1978	1992	Percent Change	1978	1992	Difference
Sector/Type						
State University	265,455	203,700	-23%	36.9%	37.0%	0.1%
4-Year[2]	135,117	108,500	-20	18.8	19.7	0.9
Agricultural and Technical	23,180	17,967	-23	3.2	3.3	0.1
Community College	107,158	77,233	-28	14.9	14.0	-0.9
City University	138,624	99,357	-28	19.3	18.0	-1.3
Senior Colleges	84,667	65,067	-23	11.8	11.8	0.0
Community Colleges	53,947	34,300	-36	7.5	6.2	-1.3
Independent	298,003	232,755	-22	41.4	42.2	0.8
Proprietary	17,402	15,433	-11	2.4	2.8	0.4
				100.0%	100.0%	
Level						
4-Year	524,420	411,245	-22	72.9	74.6	1.7
2-Year	195,063	139,967	-28	27.1	25.4	-1.7
				100.0%	100.0%	
Region						
Western	71,673	46,924	-34	9.8	8.5	-1.3
Genesee Valley	49,763	36,915	-26	6.9	6.7	-0.2
Central	92,071	72,954	-21	12.8	13.2	0.4
Northern	14,503	11,237	-23	2.0	2.0	0.0
Northeast	66,705	53,661	-20	9.3	9.7	0.4
Mid-Hudson	64,032	49,594	-23	8.9	9.0	0.1
New York City	275,738	201,415	-27	38.3	36.5	-1.8
Long Island	85,998	78,499	-9	12.0	14.2	2.2
TOTAL	719,484	551,212	-23%	100.0%	99.8%	

[1]Part-time Undergraduates were counted as 0.33 and part-time graduates and first-professionals were counted as 0.4.
[2]Four-Year Community Colleges were included in the community college total (i.e., Fashion Institute of Technology).
SOURCE: NYSED: Postsecondary Information Systems (GLR/14 May 79).

TABLE 10
UNDERGRADUATE AND GRADUATE FULL-TIME EQUIVALENT ENROLLMENTS

Actual 1978, One Possible Future 1992

	1978				1992			
	Number		Percent		Number		Percent	
	Undergraduate	Graduate	Undergraduate	Graduate	Undergraduate	Graduate	Undergraduate	Graduate
Sector/Type								
State University	243,204	22,252	91.6%	8.4%	181,167	22,533	88.9%	11.0%
4-Year	112,865	22,252	83.5	16.5	85,967	22,533	79.3	20.9
Agricultural and Technical	23,181		100.0		17,967		100.0	
Community College	107,158		100.0		77,233		100.0	
City University	129,551	9,073	93.5	6.5	91,667	7,690	92.3	7.8
Senior Colleges	75,604	9,073	89.3	10.7	57,367	7,690	88.2	11.8
Community Colleges	53,947		100.0		34,300		100.0	
Independent	223,267	74,735	-74.9	25.1	162,600	70,155	69.8	30.1
Proprietary	17,402		100.0		15,433		100.0	
Level								
4-Year	418,360	106,060	79.8	20.2	310,867	100,378	75.6	24.5
2-Year	195,064		100.0		139,967		100.0	
Region								
Western	62,687	7,985	88.7	11.3	39,200	7,724	83.5	16.4
Genesee Valley	44,597	5,166	89.6	10.4	31,700	5,215	85.9	14.2
Central	79,560	12,511	86.4	13.6	60,400	12,554	82.8	17.2
Northern	13,856	648	95.5	4.5	10,577	660	94.1	5.9
Northeast	59,386	7,319	89.1	10.9	46,533	7,127	86.7	13.2
Mid-Hudson	59,756	4,276	93.3	6.7	44,633	4,961	90.0	9.9
New York City	219,245	56,494	79.5	20.5	151,567	49,848	75.2	24.8
Long Island	74,337	11,661	86.5%	13.5%	66,300	12,199	84.4%	15.6%
TOTAL	613,424	106,060	85.3%	14.7%	450,834	100,378	81.8%	18.2%

SOURCE: NYSED: Postsecondary Information Systems (GLR/14 May 79).

summarize full-time equivalent enrollments and enrollment shares. More detailed tables are provided in Appendix B. For the record, full-time equivalent students are the sum of all full-time students plus one-third of the part-time undergraduates and 40 percent of the part-time graduates.

The simulation results suggest only small changes in full-time equivalent enrollment shares by 1992 across sector, level of institution and region of institution. The independents and 4-year SUNY institutions are up almost one percent while the community colleges are down. This corresponds to a 1.7 percent increase for all 4-year institutions and a 1.7 percent decrease for all 2-year institutions. Greater differences occur across regions. Long Island appears to have the potential of increasing its share by over 2 percent. In contrast, New York City and the Western regions show losses in share of 1.8 and 1.3 percent respectively.

These changes in share are really insignificant when compared to the large declines in full-time equivalent enrollments which appear likely to occur in all types of institutions in all regions. Long Island shows the smallest decline, 9 percent. Most institutions show declines between 20 and 28 percent. If the assumed patterns of participation hold up, The City University Community Colleges may decline as much as 36 percent, and the SUNY community colleges around 28 percent. Regionally, the Western, Genesee Valley and New York City regions show the largest declines with 34, 26 and 27 percent simulated decline, respectively. Statewide this is a drop of over 165,000 full-time equivalent students between 1978 and 1992.

Not only will enrollment levels be down but the composition of full-time equivalent students will also be different. Four-year institutions may increase from approximately 20 percent graduate students to approximately 25 percent graduate students. This shift appears to be most pronounced for Independent institutions and least for the City University Senior Colleges. In addition the share

of full-time equivalents in 4-year institutions who will be attending full-time shows a decline of over 3 percent. In community colleges as may as 10 percent fewer of the full-time equivalents may be attending on a full-time basis in 1992.

The scenario for 1992 is one of (1) fewer numbers of students who will (2) emphasize different types of programs and a (3) larger percentage of which will be enrolled on a part-time basis. The (4) average ability of these students may also be slightly lower than is presently the case. In 4-year colleges a (5) greater proportion of instruction will also be directed toward graduate education. This does not imply an increase in resources allocated to graduate education but instead a decrease allocated to undergraduate education. Efficiently adapting faculty, curriculum and procedures to meet this new clientele mix will require exceptional management skills.

ENROLLMENT DISTRIBUTION

The sensitivity of the Model to relatively small changes in projected participation rates and population levels has been stressed already. The distribution of students appears to be quite volatile as well depending on the asumptions one makes about student migration patterns and institutional drawing power. Simulations which alter drawing power classifications illustrate the importance of assumptions regarding the determinants of enrollment distribution and indicate the value of simulating various policy options related to student choice of institution. This section describes the simulation results obtained using three distinctly different assumptions regarding drawing power:

(A) All institutions classified as lower draw. This results in historical student migration patterns and institutional enrollment shares from each region remaining constant.

(B) Thirty-four percent of the institutions (77 of 227) classified as higher draw. This was done according to the criteria specified for the One Possible Future Simulation (page 48).

(C) Fifty percent of the institutions classified as higher draw. This was done by adding all institutions having an acceptance ratio between 70 and 80 percent to those identified as higher draw for the One Possible Future Simulation.

For each of these runs, all other asumptions were the same as those used for the One Possible Future Simulation. Twenty-six of the higher draw institutions were proprietary institutions accounting for only 2.8 percent of the full-time undergraduate enrollments. Excluding the proprietary institutions, 51 of 201 institutions (25%) were initially classified higher draw (Case B) and later 88 of 201 institutions (44%) were classified higher draw (Case C). The number of higher draw institutions was almost doubled.

The results summarized in Table 11 show that increasing the proportion of higher draw institutions (Cases B and C) increases the statewide forecast for all future years, with relatively greater increases for the long-range forecasts where the demographic decline is greater. This result is related to the higher transition (retention and transfer) ratios typically observed in the higher draw institutions. By allocating a larger share of the freshmen to institutions with high retention, the statewide undergraduate enrollment does not drop as rapidly as if more of the students entered low retention institutions. It does not seem likely that transition ratios will remain the same as the characteristics of students entering an institution changes. In fact, as the more selective institutions lower their standards somewhat to maintain enrollment levels, it is likely that transition ratios will also drop somewhat. If this is correct, the differences between the three scenarios would be reduced slightly. Keep in mind that all of these simulations already assume a slight drop in transition ratios from recent historical levels.

The sector, level and regional aggregates vary considerably for each simulation. These variations are caused as much by <u>which</u> institutions are classified

TABLE 11
VARIATIONS OF THE FULL-TIME
UNDERGRADUATE SIMULATION:
Varying the Number of Higher Draw Institutions

	One Possible Future Assumptions X% Higher Draw Institutions					
	0%	34%*		50%		
	A	B	B-A	C	C-B	C-A
Statewide						
1980	534,350	535,550	+1,200	537,000	+1,450	+2,650
1985	474,800	476,800	+2,000	481,100	+3,300	+5,300
1990	412,000	413,900	+1,900	420,050	+6,150	+8,050
1994	358,600	362,600	+4,000	371,200	+8,600	+12,600
% Institutions, Declining X - Y% Between 1978 and 1992						
< 25.0%	34%	41%		52%		
25 - 44.9%	60	30		16		
45 - 59.9%	5	25		20		
≥ 60.0%	1	4		12		
Sector (1992)						
SUNY	140,550	144,450	+3,900	150,550	+6,100	+10,000
CUNY	70,200	77,100	+6,900	71,800	-5,300	+1,600
Independent	152,500	142,300	-10,200	149,300	+7,000	-3,000
Proprietary	11,250	13,650	+2,400	13,400	-250	+2,150
Level (1992)						
4-Year	267,050	273,600	+6,550	289,200	+15,600	+22,150
2-Year	107,450	103,900	-3,550	95,850	-8,050	-13,600
Region (1992)						
Western	34,700	33,900	-800	33,850	-850	1,650
Genesee Valley	26,250	26,050	-200	29,450	+3,200	+3,000
Central	50,650	55,450	+4,800	57,750	-7,100	+11,900
Northern	9,050	10,050	+1,000	9,650	+600	+700
Northeast	37,100	38,850	1,750	39,400	+2,300	+4,050
Mid-Hudson	37,450	34,700	-2,750	35,550	-1,900	-4,650
New York City	124,600	127,750	+3,150	126,700	+2,100	+5,250
Long Island	54,650	50,800	-3,850	52,750	-1,900	-5,750

*The simulation reported as most likely earlier in this Chapter.

Source: NYSED: Office of Postsecondary Research, Information Systems and Institutional Aid. GLR/11/79

higher draw as by how many are classified higher draw. When none of the institutions were classified higher draw, all sector enrollment forecasts decreased from our most likely simulation (34% higher draw) except for the Independent sector which for 1992 increased over 10,000. The City University decreased almost 7,000, while the larger State University decreased by only 4,000. This is primarily because in Case B proportionately more of the enrollment controlled by these higher draw institutions is in The City University, less in the State University and least in the Independent sector. It also has to do with whether or not the lower draw institutions in each sector compete with higher draw institutions. These dynamics favor The City University, when drawing power classifications are used.

The addition of more higher draw institutions, however, changes the dynamics. Of the institutions added to the higher draw list, most were from the Independent sector and none were from The City University. As a result, enrollments for The City University and the Proprietary sector decreased, while enrollments increased for the other sectors. Even so, the Independent sector does not benefit by either classification of higher draw institutions when compared to the 0% simulation, while the State University increasingly benefits by the expansion of the list. The differences in sector forecasts for 1992 in these three cases are as great as 17% and are clearly significant.

The impact of drawing power is even more dramatic for 4- year and 2-year institutions. As classified in Cases B and C, higher draw institutions are almost entirely 4-year institutions. As the number of higher draw institutions increases, the proportion of 4-year enrollments increases, at least for the 1992 forecast. With 50 percent of the institutions classified higher draw, the 4-year total in 1992 is increased by 22,150 or 8 percent while the 2-year total is decreased by 13,600 or 13 percent.

Regional results are determined by the geographic locations of the higher draw institutions. When no higher draw institution is assumed, relatively large enrollment decreases occur for the Central and New York City Regents regions and relatively large increases occur for the Mid-Hudson and Long Island Regents regions when compared to Case B. When another 16 percent higher draw institutions are added, relatively large increases occur for the Genesee Valley, Central and Northeast regions. Relatively small decreases occur for the Mid-Hudson and Long Island regions.

It was also hypothesized that the increase in the number of higher draw institutions would drive more institutions into a significant enrollment decline and perhaps do so sooner than the average demographic decline would suggest. Table 11 includes the proportion of institutions experiencing each of four categories of decline for each of the three simulations. Given no higher draw institutions, the demographic variations could result in thirty-four percent of the institutions experiencing less than a 25 percent decline, sixty percent from 25-44.9 percent decline, five percent from 45-59.9 percent decline, and one percent greater than 60 percent decline.* The introduction of higher draw institutions moves institutions to both extremes of enrollment change. The proportion of institutions showing greater than a 60 percent decline increases from one to four to twelve percent for the three simulations. It is likely, however, that a decline of 45 percent or more would be very serious for most institutions. This is nearly cutting the size of the institution in half. For both simulations involving higher draw institutions, almost one-third of the institutions (73 of 227) show this high level of decline.

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*A few of the larger declines are due to using actual 1978 enrollments to calculate the declines. Institutions which experienced large unusual changes in their enrollment between 1977 and 1978 could show unrealistically high percentage declines especially if their enrollments are very small (e.g., a change of moderate magnitude would produce a large percentage change).

It should be apparent that the assumptions one makes about the distribution of students -- drawing power of institutions -- are important in the use of this type of model. The number of higher draw institutions, the criteria used to select them, and the enrollment consequences of being higher draw are assumptions requiring careful consideration. It may be that three or four drawing power categories would be more appropriate than two. Attention will be given to these questions in future development of the model, but it should be clear in any event that enrollment declines are not likely to be evenly distributed. It is also likely that institutional management will have a significant impact on enrollment declines, but it is believed that these simulations suggest some of the directions in which the future distribution of students may be headed.

CHAPTER V

LINKING THE MODEL TO INSTITUTIONAL ENROLLMENTS

The projections and analyses presented above highlight significant changes which require attention by individual institutions. The number of traditional college-age youth has reached a peak and will soon decline in New York State. Higher education enrollments will decline for many institutions but general awareness of the coming decline may not be sufficient when attempting to manage a specific institution. Institutions must necessarily project their own enrollment future; but they cannot ignore other institutions in the system during the process. The results of the statewide model which this paper has described provide a general context for understanding enrollments. This chapter suggests how an institution can use the enrollment simulations which have been developed by the systemwide model to help understand its own enrollment future; it defines some additional enrollment analyses to help in this process; it lays out information which institutions will need to use; and it provides a perspective on the analytical problems which colleges face in an era of enrollment decline. While not a "how to" dissertation, this chapter, hopefully, provides a useful perspective regarding what institutions can do to improve upon the results of the systemwide model when analyzing their own future enrollments.

The future enrollments of individual institutions are not easily estimated. In general, some average of the curves for the sector, level and region of the specific institution will give useful clues to that institution's future. However, the general reputation or drawing power of the institution as well as changing competitive forces must be considered as well. In-depth analysis of the institution's competi-

tive positions, including the specific nature of students attending that institution, will become invaluable. To predict individual fortunes the following questions must be answered. What kinds of institutions will survive? Which will fail? Who stands to win? Who stands to lose? What are alternative actions? These are issues which need to be addressed before institutions can project their own enrollments and then meaningfully go beyond enrollment decline, to the management of decline...

Analyses of competitive position will help to determine who the weakest and strongest institutions are and will be, what are useful indicators of financial or enrollment difficulty, what nature of competition exists, and what the "pecking orders" are. Analyses of position should also focus on providing more detailed descriptions of the influences on enrollment as they will exist for specific areas or institutions -- demographic characteristics, participation rates, etc. The results of these analyses will guide mission shifts, marketing emphases and other adaptations. A few general analyses have been performed by the State Education Department in addition to its continuing analysis of future conditions such as those presented earlier in the report. For instance, estimates have been made of those institutions likely to be most vulnerable to difficulty in the future. It appears that small, rural independent liberal arts colleges, especially women's institutions, charging high tuition, depending greatly on tuition income, and operating significantly under capacity, are the most vulnerable. On the other hand, large urban, high-prestige multiversities with large endowment funds and operating at just about capacity seem likely to hold their own, and may even increase their share of enrollment, slightly. Four-year colleges may go either way, but some may hold their own by drawing on the enrollment pool of the two-year institutions. Consequently, the two-year colleges may need to adapt the most. Regardless of the identity of the "winners and losers," it is important to keep in mind that almost all institutions will be seriously disrupted. All will need to adapt program emphases and operating

policies. Institutional enrollments cannot be adequately projected beyond a very short period without considering these kinds of influences.

The New York State Education Department has been collecting comparative information and developing indicators which can usefully augment data available at the institutional level. For instance, residence and migration data permit identification of those counties from which most students are coming and for which demographics will be most important; trends in the out-of-region draw of an institution help to monitor its reputation; and tables showing which institutions are attended by students of a given county help to identify to whom students are being lost -- possibly why. Population demographics aid in understanding these statistics. State monitoring of program registrations helps to identify areas for which students in an institution's locale are underserved, and review of student faculty and financial characteristics will help to decide whether it is feasible to move in those directions. Trends in admissions data and statewide enrollment shares are particularly useful in monitoring the institution's attractiveness to students and its ability to respond during an adverse environment. An institution with a high acceptance level is typically less apt to have a surplus of "qualified" applicants in a period of declining pools than a similar institution with a lower ratio. Perhaps as useful as any information may be the Department's enrollment projections for whichever group of institutions has most nearly the same future circumstances as one's own institution. They provide a check on one's own procedures and typically have the advantage of having applied systemwide constraints and interactions.

Another source of information is the study of competing groups of institutions being pursued by the Department. While far from complete, this study is suggestive. It appears feasible to establish dominance patterns within specific groups of institutions which could encourage an institution to alter its mission and marketing goals. In any case, a large number of rather small competitive groups

appear to exist. As the student pool declines, dominated institutions in each group will need to change their mission and competitive group, significantly increase their attractiveness to the target group of students, or be ready to accept substantially greater than average enrollment losses. Dominated institutions are thought to exist in every typical classification category. They include institutions of high quality as well as some with less prestige. (See Appendix C for a more complete discussion of factors affecting an institution's ability to compete for students.)

Institutional position is determined by a number of factors in addition to enrollment level and current competitive position. The identification of and selection among alternative reponses will hinge on management conditions and cost factors as well. Lower enrollment means that less money will be available from tuition but the cost of running the institution will not decline a corresponding amount. The problem is compounded by other sources of increasing costs. Continued inflation, rising energy costs, increasing student aid requirements, program modification needs, and needed adaptation to increasing proportions of students with poorer academic skills will increase the aggravation. Increasing competition for students from industry and school systems is another consideration. Strategies will be required to reduce the number of personnel, to reallocate personnel across program areas, to develop program areas, to effectively adapt to less able students and to meet increasing pressures for measuring and improving institutional efficiency and productivity. It is a circular track. Management responses and enrollment levels are dependent on one another. They must be projected together if either is to be adequate.

The most immediate reaction by hard-pressed institutions is likely to be self-preservation. Where disbelief, followed by the self-preservation emotion is overly strong, there may be a (a) scrambling toward fad solutions where supportive monies

are readily available, and (b) hanging on to programs or personnel or structures past the point where there is reasonable value in so doing.

Other related hazards to be guarded against are responses that seem to naturally follow from the organizational structure present in most institutions of higher education. There exist natural tendencies toward (a) short-range perspectives and limited analysis, (b) incremental decision making and diffuse power, and (c) informal and individual faculty or department adaptation. When these responses predominate in periods of declining resources, an institution will find change difficult, program quality will suffer and faculty morale will be damaged, if not faculty quality.

Institutions should guard against responding to increased competition in a limited and undersirable manner as well. While not inherently inappropriate, excessive tendencies toward promotion, lowering of entrance requirements and other "surface" changes can be damaging to both students and institutions. The problem occurs if the promotion, etc., are not backed up by substantive changes in the institution and its offerings -- a condition hard to bring about when resources are declining and costs rising. Temporary gains may be made, but eventually disorganization and lowered quality are apt to creep in. Future institutional enrollments might stabilize and then drop very dramatically under these conditions.

The responses which have been described all appear to be negative. That is only because it is the problems which need to be addressed, not the successes. It is not necessary to be pessimistic, but it is essential to point out those traps which are easy to fall into particularly with the recent history of growth and good times. As put in the Carnegie Report, More Than Survival (1975), "a good place to start is with the recognition that growth fosters neither the habits of mind nor the organizational arrangements required for adjusting to declining growth (or absolute declines)." Individual institutions and State planners must:

- "analyze conditions of their own institutions and system
- develop and refine goals and plans-analyze the validity of past assumptions, and
- develop an overall strategy for flexibility in the use of funds, assignment of faculty, utilization of space and for effective decision-making."

Institutional researchers must examine how adaptable and responsive their institution is at some point during the process of institutional enrollment projection. As has been the strategy in this paper, it seems appropriate to progress through scenarios which separately emphasize the likely or possible impact of essential demographic trends, economic/social trends and competitve patterns and internal management influences.

It seems that the broadest and initial response of institutions to likely enrollment decline should be to formalize goals and development strategies along with the flexibility and power to implement and monitor them. In order to do this well, a number of sound analyses are needed beyond what is now available, some by institutions and some by State agencies. Several areas deserving attention have been identified. Foremost, the levels and mix of future students need to be projected and described in greater detail if they are to be explicitly used for planning. For instance, significant increases in proportions of students from low income families could have profound effects on higher education. Second, due to increasing competition and in order to improve statewide financing strategies, comparison of institutions will become increasingly important. Current classification efforts are not very useful for many analytical purposes. Empirical clustering is needed to develop sound categories of a variety of types. In particular, different classification schemes are seen based on drawing power concepts, financial status, institutional atmosphere and institutional function. Many others could be suggested.

The Challenge

Declining undergraduate enrollments, shifts in student capabilities and interest, and the tightening of financial purse strings will tax the goodwill of many institutional planners. However, the effort expended could serve to improve an institution; a reduction in quality is not inevitable. As mentioned in the introduction, the National School Public Relations Association (1976) has suggested a useful perspective:

> "Enrollment decline is generally viewed as a signal for retrenching, for tearing down what originally took great effort to build and for a pessimistic outlook in contrast to the heady optimism that accompanied the growth period. It can be viewed, however, as an opportunity to try things that no one had time to consider during the growing years. The attitude toward the decline makes a big difference in how successfully it is handled: If decline is seen as all bad, then whatever means are used to cope with it, will not produce many positive results."

CHAPTER VI

EVALUATION OF THE ENROLLMENT SIMULATIONS

> "Predicting the future is a hazardous task. Even if a forecast is plausible, it often has within it the seeds of its own destruction to the extent that its outcome is only a warning of things which might happen if steps are not taken. Nonetheless, we are constrained to examine where current trends appear to be leading. We also are desirous of knowing where the future will bring us if certain actions or presumptions prevail." (Lewis and Sulkin, 1975).

Projections cannot be appropriately used unless (a) their accuracy has been evaluated and (b) the numbers are meaningful - that is, tied to current issues which demand decisions. Lewis and Sulkin (1975) add that projections should be systematic and replicable, making all behavioral assumptions visible and subject to evaluation and adjustment. In turn, the projections can be reasonably used, and social movements and other factors acting upon educational participation rates can be better understood and studied. Mangelson et. al (1974) document the limited accuracy prevailing among recent attempts at national enrollment projections and summarize useful criteria for assessing projections. Among other conclusions they report an over-reliance on historical trends and inadequate specification of assumptons and procedures.

These are the pitfalls which New York State is attempting to avoid. Much has been accomplished and much remains to be accomplished to effectively project (rather than extend) trends and to lay out methodology and results so as to encourage effective application of the simulation results. The chapter on methodology and influential factors and the appendix containing basic data tables are included specifically to help institutions and individuals adapt the projections for their own situation and beliefs. Our evaluations of the projections provide an

additional source for determining the appropriateness of applying the projections to various issues and problems.

At present, the model makes use of both historical trends and judgments about the future. However, the latter are much less well developed and are subject to question. Acceptable results have been obtained for the short-range regional and statewide full-time undergraduate projections. Table 12 summarizes the percentage errors of projections provided in the New York Statewide Plans and Progress Reports since 1964. Projections of full-time undergraduates for one-year into the future fall along the diagonal line of the Table. The one-year projections have been getting consistently more accurate as the model has been refined. In 1970, the statewide error for full-time undergraduates was -4.3 percent; in 1978, the error was -0.4 percent. The three-year projections are even better than the one-year projections in all cases and have also been getting better as the Model has been refined. The three-year projections have typically been in error by less than one percent (5,000 students). The use of weighted average data for residence and migration and transition ratio input variables appears to be the reason that the three-year errors are less than the one-year errors. Extrapolation of trends would probably provide superior results for a one-to-two-year projection, while the use of weighted average of historical data appears to be a better assumption for longer range projections.

The five-year projections published in 1970, 1972 and 1974 showed errors of between 3.9 and 4.6 percent. Data are not yet available to evaluate longer range projections for the Model in its current form, and, of course, it is the longer range projections which are most greatly influenced by the decision to use simple historical trends or more complex projections of the various input parameters.

The accuracy of recent statewide projections for degree-credit enrollments is summarized in Table 13. The recent projections for one year into the future are

TABLE 12
PERCENTAGE ERROR OF FULL-TIME UNDERGRADUATE
ENROLLMENT PROJECTIONS PRESENTED IN THE
NEW YORK STATE STATEWIDE PLANS AND PROGRESS REPORTS

Year of Enrollment	1964 Plan	1968 Plan	1970 Progress Report	1972 Plan	1974 Progress Report	1976 Plan	1978 Progress Report
1965	-6.2%						
1966	4.6						
1967	-3.6						
1968	-5.2						
1969							
1970			-4.3%				
1971			-4.7				
1972	-10.2	-2.2%	1.5	3.2%			
1973		-0.9	2.9	2.8			
1974		-0.5	4.0	0.9	-2.8%		
1975	-10.2	2.2	3.8	-1.5	-5.9		
1976			9.6	4.6	-0.8	1.0%	
1977			12.6	8.3	0.9	0.3	
1978	-0.03		17.3	13.2	3.9	0.5	-0.4%
1979							
1980							

SOURCE: NYSED: Postsecondary Information Systems (GLR/7 June 79).

TABLE 13
ACCURACY OF STATEWIDE PROJECTIONS
FOR DEGREE-CREDIT ENROLLMENTS

	Full-Time Undergraduates	Part-Time Undergraduates	Full-Time Graduates	Part-Time Graduates	First Professional
Actual Fall 1976	538,147	228,131	45,568	105,687	20,150
Projection					
1976 Statewide Plan	+1.8%	+9.1%		+10.0%	
Actual Fall 1977	542,643	225,385	45,613	101,600	21,618
Projection					
1976 Statewide Plan	1.1%	+11.9%		13.3%	
1977 Projection	.4%	.5%	1.6%	4.8%	-6.8%
Preliminary Fall 1978	537,114	228,928	45,186	97,890	22,907
1976 Statewide Plan	+.5%	+12.5%		-10.2%	
1977 Projection	-.6%	-.4%	+3.3%	+9.6%	-8.7%
1978 Progress Report	-.4%	-2.0%	+3.3%	+6.2%	-6.1%

more accurate than the 1976 Statewide Plan projections in all cases. This improvement is primarily due to the fact that both 1975 and 1976 showed significant breaks with enrollment trends in earlier years.

The model appears to perform quite well for the short-term statewide projection of full-time undergraduates, part-time undergraduates and full-time graduates (errors of 0.4 to 3.3 percent). Part-time graduate participation appears to be less stable and the assumption of constant participation rates has resulted in relatively large errors (6 to 10 percent).

Tables summarizing the accuracy of sector, level, type and region projections also provide useful information. Relevant figures for the projections prepared in 1977 are provided in Tables 14 and 15. For all types of enrollment the statewide projections were significantly more accurate than the sector, region or institutional type projections. The regional projections for all types of enrollment were the most accurate figures and were excellent for the full-time undergraduates (all less than 3 percent error). Sector projections were also quite good for the full-time undergraduates. The full-time undergraduate projection errors for SUNY, CUNY, and the independents were all less than 1 percent.

It appears that proprietary institutions should have at least been classified "higher draw" so that their projections would not have been determined by the projected numbers of available high school graduates. They are clearly in a growth pattern of unknown duration.

Institutional type projections and the sector projections for other enrollments are much more variable, with errors usually less than 8 percent but occasionally much higher. The largest errors are usually an artifact of small numbers for which moderate absolute errors result in large percent errors. A number of significant refinements have been made in the Model since 1977 to improve its accuracy. In particular, the model now makes use of several age groups to generate students and

TABLE 14
ACCURACY OF TOTAL NEW YORK STATE DEGREE CREDIT HEADCOUNT, FALL 1977 PROJECTIONS FOR FALL 1977 BY SECTOR, LEVEL, TYPE, REGION AND STATE

IN PERCENTS (See KEY for Column Headings)

	1	2	3	4	5	6	7	8	9	10	State-wide
TOTAL HEADCOUNT											
Sector	.3	10.6	-2.1	-11.8							1.0%
Level											
Type A	6.3	7.3	- .8	- 5.1	- .2	- 4.5	- 4.4	.2	12.6	5.6	
Type B	-3.1	-3.1	-1.4	- 3.4	- 1.7	- 6.8	-11.7	2.1	8.6	-11.8	
Region	4.1	2.8	1.0	1.3	- 2.5	6.1	1.5	-.2			
UNDERGRADUATE											
Sector	-1.0	7.2	-1.6	-12.5							.2%
Level											
Type A	6.7	3.3	1.7	- 4.6	1.1	- 4.5	- 4.4		6.6	5.6	
Type B	-2.4	-1.5	-1.3	- 3.7	-11.7	.6	-11.7	3.8	46.0	-11.8	
Region	3.0	1.3	- .2	1.3	- 3.2	- 1.5	1.2	.1			
GRADUATE AND FIRST-PROFESSIONAL											
Sector	12.3	50.3	-3.3								4.7%
Level											
Type A	5.1	32.8	-2.2	- 6.8	- 4.5			.2	61.4		
Type B	-3.7	-5.4	-1.8	.8	7.2	-10.5		-6.9	- .4		
Region	10.8	12.2	7.5	1.3	2.1	18.4	3.2	.5			

KEY:

Sector	Level	Type A	Type B	Region
1 SUNY	1 Four-Year	1 SUNY Univ. Ctr.	1 Ind. Multiversity	1 Western
2 CUNY	2 Two-Year	2 " Univ. Clg.	2 Ind. Univ.	2 Genesee Vly.
3 Independent		3 " Health Sci.	3 Ind. Coll. Compl.	3 Central
4 Proprietary		4 " Spec. Coll.	4 Ind. College	4 Northern
		5 " Stat. Coll.	5 Ind. Spec. Coll.	5 Northeast
		6 " Ag. & Tech.	6 Ind. Health Sci.	6 Mid-Hudson
		7 " Comm. Coll.	7 Ind. Nursing Sch.	7 New York Cty.
		8 CUNY Grad. Ctr.	8 Ind. Eng. & Tech.	8 Long Island
		9 CUNY Senior Coll.	9 Ind. Seminaries	
		10 CUNY Comm. Coll.	10 Ind. Proprietary	

SOURCE: GLR, 1/78.

TABLE 15
ACCURACY OF 1977 PROJECTIONS FOR FALL 1977
BY SECTOR, LEVEL, TYPE AND REGION[1]

	IN PERCENTS[2]										
	1	2	3	4	5	6	7	8	9	10	State-wide
Full-Time Undergraduates											
Sector	.7	-.7	.8	-12.5							0.08%
Level											
Type A	6.8	3.9	1.1	- 5.2	2.7	- 4.4		-3.0	-1.2	- 2.1	
Type B	-2.4	2.3	1.0	17.2	56.1	1.9	- 6.7	9.1	12.4	-12.5	
Region	2.0	1.7	.9	1.3	-1.9	- .08	- 1.3	2.7			
Part-Time Undergraduates											
Sector	-4.5	24.6	- 9.3	-10.2							0.6%
Level											
Type A	5.9	-.6	9.5	1.2	11.1	- 4.8		-6.1	28.7	20.9	
Type B	-2.4	-13.9	- 9.1	- 9.5	-17.3	-10.0	-51.0	7.1	165.5	-10.2	
Region	6.3	.5	- 5.8	1.4	- 6.5	- 4.3	5.8	-4.6			
Full-Time Graduates											
Sector	10.4	18.7	- .7								3.2%
Level											
Type A	7.6	46.9	2.1	- 8.6	- 5.7			-15.1	68.7		
Type B	-3.1	1.2	1.7	- 7.2	27.7	-12.4		-4.2	-23.4		
Region	11.8	12.7	2.0	21.4	2.0	4.6	2.3	1.8			
Part-Time Graduates											
Sector	15.3	61.9	- 4.3								6.7%
Level											
Type A	2.5	30.7	-21.8	6.3	20.0			119.7	60.3		
Type B	-6.1	-5.4	- 1.0	1.5	5.6	-53.3		-8.1	-19.7		
Region	10.0	12.4	13.9	- 4.7	.9	24.7	6.1	- .5			
First-Professionals											
Sector	2.6		-3.5								-6.0%
Level											
Type A	15.0		1.3	-27.0	.3						
Type B	3.4	-12.6	-36.5		- 3.4	- 7.8			21.7	21.7	
Region	12.1	8.1	5.4		8.8	-12.9	- 6.0	-6.1			

[1]Using Preliminary Fall 1977 Figures as of January 12, 1978, and "most likely" projection assumptions.

[2]See Table 14 for the KEY to column headings.

then distributes these students to individual institutions based on the age distribution of students in each institution and distinct residence and migration assumptions for each age group. It is not yet possible, however, to assess the impact of these changes.

Sources of Error

The 1976 Statewide Plan full-time undergraduate projections and errors for the SUNY, CUNY, and independent sectors are summarized below to further demonstrate the effect of nontypical circumstances (e.g., the fiscal crisis).

Sector	Preliminary 1976 Actual	Low Projection	Error	High Projection	Error
SUNY	210,676	204,612	-2.9%	211,620	.4%
CUNY	117,554	132,309	12.5%	137,088	16.6%
Independent	195,727	184,403	-5.7%	190,065	-2.9%

The unusual circumstances in The City University System clearly made the use of historical trends inappropriate for projections of CUNY enrollment, as well as for those regions which seem to have gained a number of students which CUNY lost.

The calculations for a very small sample of institutions were also analyzed to identify the magnitude of errors associated with each of several variables in the full-time undrgraduate projections model. Significant errors were present although these errors frequently cancelled each other. The conclusion to be drawn is that attention should be given to developing better projections for each variable. Until improvement is made for all variables, overall errors cannot be expected to decrease. An example of the magnitude and cancelling of errors for the 1976 projections of enrollments in one institution is provided below. Upper division enrollments are a function of the following factors:

	Upper Division Transfers	Transition Ratio From Lower to Upper Division	Last Years Transfers	Lower Division 2 Years Ago	Total
Projection Errors:	-12%	+1.0%	-33%	+3%	-5.6%
Number of Students	-120	+43	-245	+75	-247

Since the lower division was overestimated in this case, the error for total enrollment was actually quite small. Lower division error was +7.0 percent (100 students) due to errors in projections of the freshman to lower division transition ratio, of college-going rates and of the distribution of available students. The resulting error for full-time undergraduates was +2.5 percent.

Conclusions

The short-term statewide projections appear to be quite accurate and useful for planning. A number of short-term, sub-aggregate projections are also reasonably accurate as has been described. It is important to remember that the results for five to fifteen years into the future are not intended as predictions. They are simulations indicating changes in enrollments that may result from various circumstances. The statewide results for the long term may be quite good because statewide enrollment are influenced largely by numbers of prospective students which are reliably known except for population migration. Still, a change in college-going rates of only a few percent could change future statewide enrollments by several tens of thousands. The more specific results are less likely to be accurate since changing competitive conditions which alter the distribution of students are not adequately projected and incorporated into the results. Each institution must assess its own situation when applying these projections or simulations.

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APPENDIX A

BASIC DATA TABLES USED IN DEVELOPING ENROLLMENT PROJECTIONS

FIGURES INCLUDED IN APPENDIX A

A Historical Distribution of High School Graduates in New York State - 1966-73

B Historical Distribution of High School Graduates in New York State - 1974-78

C New York State High School Graduate Projections By Region

D New York State Population Projections Used for Simulating Enrollments By Regents Region and Age Group: Percent Change From 1978 Levels

E New York State Population Projections Used for Simulating Enrollments by Regents Region and Age Group

F Projected Full-Time, First-Time Undergraduate Pools from Each Regents Region By Age Group

G Projected Part-Time Undergraduate Pools from Each Regents Region by Age Group

H Projected Full-Time Graduate Pools from Each Regents Region by Age Group

I Projected Part-Time Graduate Pools from Each Regents Region by Age Group

J Calculation of Historical College Entrance Indices - FTUG

K Summary of Selected College Participation Rate Statistics - New York State -1975

L Trends in Freshmen Enrollments and College Participation Rates - 1963, 1968, 1975

M Trends in New York State College Entrance Indices by Region

N College Entrance Index by Sex

O Instate New York State College Entrance Indices by County - 1975-1977

P New York State Statewide Participation Rates

Q New York State Participation Rates by Regents Region and Class of Student - 1974-1976

R New York State Participation Rates by Regents Region and Class of Student, 1977

S Participation Rates by Age Group, Regents Region, and Type of Enrollment -1975 and 1976

T Comparison of New York State Participation Rates Across Types of Enrollment

U New York State Undergraduates from Out-of-State

V Student Flow Characteristics for Full-Time Undergraduates - New York State

W Regional Migration of Full-Time, First-Time Freshmen - 1972, 1974-76 - in Percents

X Admissions Trends in New York State by Type of Institution 1972-76

Y The Admissions Matrix

FIGURE A

HISTORICAL DISTRIBUTION OF HIGH SCHOOL GRADUATES
IN NEW YORK STATE

1966-1973

	1966	1967	1968	1969	1970	1971	1972	1973
NEW YORK STATE	212,266	222,029	223,189	223,297	233,637	234,328	240,052	243,174
Region:								
Western	23,377	23,644	23,879	24,957	25,944	25,600	26,629	26,745
Genesee Valley	17,219	17,615	17,473	18,205	18,883	19,257	19,598	20,356
Central	17,290	17,475	17,570	17,779	18,904	19,464	19,703	20,252
Northern	4,160	4,222	4,270	4,420	4,557	4,663	4,791	4,829
Northeast	20,494	20,952	20,576	21,115	22,057	22,762	23,014	23,274
Mid-Hudson	22,017	22,939	23,225	25,234	26,125	26,410	27,702	28,453
New York City	71,969	76,828	76,754	69,584	71,743	69,850	70,440	69,864
Long Island	35,740	38,354	39,442	42,003	45,424	46,322	48,175	49,401

SOURCE: Distribution of High School Graduates and College-Going Rates, New York State Education Department, Information Center on Education.

FIGURE B

HISTORICAL DISTRIBUTION OF HIGH SCHOOL GRADUATES
IN NEW YORK STATE

1974-1978

	1974	1975	1976	1977	1978
NEW YORK STATE	244,888	248,120	248,758	246,945	243,924
Region:					
Western	27,235	27,539	27,438	27,142	26,074
Genesee Valley	20,231	20,730	20,796	20,511	26,642
Central	20,350	20,659	21,176	20,564	20,574
Northern	4,867	4,946	4,930	4,811	4,671
Northeast	23,428	24,065	24,109	23,841	24,217
Mid-Hudson	28,718	30,434	30,950	30,399	30,580
New York City	70,641	69,247	68,588	69,197	67,009
Long Island	49,418	50,500	50,771	50,480	50,157

SOURCE: Distribution of High School Graduates and College-Going Rates, New York State Education Department, Information Center on Education.

FIGURE C

NEW YORK STATE HIGH SCHOOL
GRADUATE PROJECTIONS BY REGION*

	Historical				Projected				
Regents Region	1976	1977	1978	1979	1980	1981	1982	1983	1984
Western	27,438	27,238	26,778	26,616	25,911	24,800	24,499	22,906	21,649
Genesee Valley	20,796	20,682	20,831	20,737	20,428	20,288	20,424	18,952	17,678
Central	21,176	20,838	21,277	21,548	21,178	20,898	20,454	18,858	17,683
Nothern	4,930	4,790	4,762	4,874	4,817	4,652	4,724	4,461	4,112
Northeast	24,109	23,730	23,630	24,009	23,953	23,690	23,479	22,161	20,244
Mid-Hudson	30,950	31,085	31,120	31,987	31,351	31,278	31,316	29,314	27,659
New York City	68,588	67,599	65,973	66,527	66,823	67,114	66,691	65,105	62,135
Long Island	50,771	50,786	50,551	49,202	48,975	47,830	45,587	43,084	40,593
TOTAL	248,758	246,748	244,922	245,500	243,436	240,550	237,174	224,841	211,753

Regents Region	1985	1986	1987	1988	1989	1990	1991	1992	1993
Western	20,344	19,492	19,877	19,964	18,125	16,369	15,087	14,811	14,702
Genesee Valley	17,309	16,993	17,220	17,791	15,970	13,703	12,706	12,670	12,538
Central	17,138	16,774	16,925	17,398	15,864	13,491	12,680	12,625	12,631
Northern	3,826	3,796	3,877	4,064	3,900	3,514	3,181	3,097	3,195
Northeast	19,376	19,537	19,873	20,320	19,061	17,349	16,214	15,576	15,486
Mid-Hudson	26,226	25,202	25,755	25,426	22,807	20,534	19,849	19,785	19,249
New York City	58,613	54,998	54,113	54,772	49,792	44,703	42,276	41,682	41,395
Long Island	38,137	38,250	38,731	38,363	34,848	31,725	30,143	30,969	30,176
TOTAL	200,969	196,553	198,371	198,098	180,367	161,388	152,136	151,215	149,372

OUT OF STATE
HIGH SCHOOL GRADUATE
PROJECTIONS**

	1976	1977	1978	1979	1980	1981	1982	1983	1984
U.S.A. (excluding New York State)	2870000	2881999	2889116	2870642	2826075	2776362	2688969	2579398	2495773

	1985	1986	1987	1988	1989	1990	1991	1992	1993
U.S.A. (excluding New York State	2456811	2462813	2484000	2563000	2485000	2440000	2487000	2490000	2515000

*Released February 1978 by the Information Center on Education, New York State Education Department.

**Published by National Center on Educational Statistics for Years 1975-1984. For years 1985-1993, the projections were extended assuming that the New York State trend applied.

FIGURE D

NEW YORK STATE POPULATION PROJECTIONS USED FOR SIMULATING ENROLLMENTS BY REGENTS REGION AND AGE GROUP: PERCENT CHANGE FROM 1978 LEVELS

		Year				
	1978	1980	1982	1984	1988	1992
Region 1:						
Western						
Ages 15-19	154,064	-3.8	-10.3	-16.4	-27.8	-31.2
20-24	148,891	1.8	- 2.3	- 6.2	-17.6	-28.9
25-29	135,478	6.0	7.7	9.5	3.4	- 8.1
30-34	111,019	9.5	15.9	22.7	29.1	25.6
35-44	170,754	1.4	9.2	17.7	35.8	51.1
45-59	275,909	-3.3	- 7.4	-11.4	-15.3	-12.7
15-59	996,115	0.9	0.4	0.2	- 1.3	- 2.2
Region 2:						
Genesee Valley						
Ages 15-19	126,091	-1.1	- 7.0	-12.5	-24.5	-27.6
20-24	123,392	4.0	2.8	1.7	- 8.3	-20.4
25-29	110,536	4.7	8.7	12.8	12.6	4.1
30-34	94,980	6.7	11.5	16.5	26.0	29.3
35-44	144,251	4.1	11.4	19.3	33.8	47.4
45-59	198,440	-2.8	- 5.1	- 7.4	- 6.4	0.2
25-59	797,690	1.9	2.7	3.7	4.2	5.1
Region 3:						
Central						
Ages 15-19	138,185	-0.4	- 5.3	-10.0	-19.5	-21.9
20-24	138,037	4.1	3.5	2.8	- 4.8	-14.2
25-29	104,812	6.2	9.9	13.8	14.2	6.9
30-34	86,693	7.4	13.9	20.9	31.2	35.0
35-44	133,767	-3.4	10.6	18.4	34.8	50.8
45-59	192,346	-2.2	- 4.6	- 6.9	- 3.9	- 2.0
15-59	793,840	2.3	3.2	4.3	6.0	7.5

SOURCE: Postsecondary Research Information Systems CHR/5/79

FIGURE D (continued)

	Year					
	1978	1980	1982	1984	1988	1992
Region 4:						
Northern						
Ages 15-19	30,755	- 0.7	- 5.9	-10.8	-17.0	-17.0
20-24	30,053	2.4	1.2	0.1	- 8.0	-15.0
25-29	20,656	15.3	17.7	20.1	17.9	8.0
30-34	16,042	6.0	22.2	40.9	55.6	55.7
35-44	27,253	2.8	9.0	15.5	39.9	66.1
45-59	41,762	- 1.6	- 2.1	- 2.7	- 2.3	2.0
15-59	166,521	2.9	4.4	6.3	8.8	11.8
Region 5:						
Northeast						
Ages 15-19	150,212	- 0.1	- 4.5	- 8.8	-17.3	-18.1
20-24	146,481	4.0	3.4	3.1	- 3.7	-11.8
25-29	121,504	7.3	11.7	16.2	17.5	11.1
30-34	103,288	7.5	15.3	23.6	35.8	40.7
35-44	162,251	4.4	12.8	21.8	40.8	59.9
45-59	247,026	- 2.3	- 4.3	- 6.4	- 5.0	2.6
15-59	930,762	2.6	4.1	5.9	8.7	12.3
Region 6:						
Mid-Hudson						
Ages 15-19	182,204	0.6	- 5.4	-11.1	-24.2	-28.9
20-24	170,052	6.9	7.7	8.5	- 0.6	-13.8
25-29	160,243	7.4	14.7	22.4	27.5	20.7
30-34	137,231	7.9	15.8	24.3	41.9	52.7
35-44	226,409	2.5	9.2	16.4	33.9	54.3
45-59	320,723	0.0	- 0.8	- 1.6	- 0.8	4.8
15-59	1,196,862	3.4	5.6	8.0	10.9	14.0

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE D (continued)

		Year				
	1978	1980	1982	1984	1988	1992
Region 7:						
New York City						
Ages 15-19	566,768	- 5.6	- 8.9	-12.1	-22.2	-25.3
20-24	639,505	0.9	- 4.8	-10.2	-17.4	-22.4
25-29	624,924	- 2.5	- 1.4	- 0.4	- 8.2	-16.4
30-34	548,269	3.7	1.2	1.1	0.7	5.1
35-44	836,446	1.1	4.9	8.8	11.7	11.7
45-59	1,167,571	- 4.7	- 8.7	-12.6	-15.9	-14.9
15-59	4,383,483	- 1.5	- 3.3	- 4.9	- 8.7	-11.2
Region 8:						
Long Island						
Ages 15-19	277,121	- 0.5	- 9.4	-17.4	-34.1	-40.0
20-24	252,537	6.2	5.6	5.0	- 8.9	-26.3
25-29	229,337	14.7	21.5	28.8	31.4	19.2
30-34	182,391	8.9	24.5	42.4	66.1	75.0
35-44	304,479	0.4	6.8	13.6	38.0	68.8
45-59	474,023	- 1.4	- 5.1	- 8.6	-12.9	-11.6
15-59	1,719,888	3.4	4.6	6.3	7.6	9.2

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE E

NEW YORK STATE POPULATION PROJECTIONS USED FOR SIMULATING ENROLLMENTS BY REGENTS REGION AND AGE GROUP

	Year					
	1978	1980	1982	1984	1988	1992
Region 1: Western						
Ages 15-19	154,064	148,195	138,119	128,728	111,172	106,062
20-24	148,891	151,547	145,506	139,706	122,624	105,839
25-29	135,478	143,566	145,925	148,322	140,045	124,519
30-34	111,019	121,583	128,706	136,246	143,326	139,406
35-44	170,754	173,178	186,546	200,946	231,965	257,979
45-59	275,909	266,931	255,515	244,587	233,811	240,857
15-59	996,115	1,005,000	1,000,317	998,535	982,943	974,662
Region 2: Genesee Valley						
Ages 15-19	126,091	124,759	117,312	110,310	95,206	91,242
20-24	123,392	128,298	126,907	125,531	113,170	98,170
25-29	110,536	115,683	120,101	124,687	124,512	115,051
30-34	94,980	101,322	105,885	110,654	119,691	122,783
35-44	144,251	150,178	160,729	172,021	193,072	212,640
45-59	198,440	192,965	188,300	183,749	185,728	198,871
15-59	797,690	813,205	819,234	826,952	831,379	838,757
Region 3: Central						
Ages 15-19	138,185	137,687	130,865	124,381	111,187	107,879
20-24	138,037	143,699	142,804	141,914	131,354	118,487
25-29	104,812	111,263	115,205	119,287	119,715	112,006
30-34	86,693	93,068	98,749	104,777	113,784	117,005
35-44	133,767	138,302	148,005	158,390	180,352	201,776
45-59	192,346	188,163	183,529	179,008	184,921	196,280
15-59	793,840	812,182	819,157	827,757	841,313	853,433

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE E (continued)

	1978	1980	1982	1984	1988	1992
Region 4:						
Northern						
Ages 15-19	30,755	30,554	28,953	27,436	25,527	25,540
20-24	30,053	30,761	30,423	30,088	27,644	25,532
25-29	20,656	23,824	24,310	24,806	24,361	22,302
30-34	16,042	17,011	19,608	22,602	24,961	24,979
35-44	27,253	28,015	29,696	31,479	37,872	45,272
45-59	41,762	41,113	40,870	40,629	40,787	42,602
15-59	166,521	171,278	173,860	177,040	181,152	186,227
Region 5:						
Northeast						
Ages 15-19	150,212	150,118	143,421	137,022	124,297	123,043
20-24	146,481	152,320	151,633	150,949	141,097	129,190
25-29	121,504	130,378	135,678	141,193	142,794	135,048
30-34	103,288	111,046	119,048	127,628	140,236	145,327
35-44	162,251	169,459	182,979	197,578	228,402	259,487
45-59	247,026	241,426	236,294	231,270	234,789	253,463
15-59	930,762	954,747	969,053	985,640	1,011,615	1,045,558
Region 6:						
Mid-Hudson						
Ages 15-19	182,204	183,228	172,320	162,061	138,113	129,487
20-24	170,052	181,855	183,152	184,459	169,074	146,516
25-29	160,243	172,177	183,757	196,115	204,335	193,463
30-34	137,231	148,125	158,982	170,634	194,747	209,498
35-44	226,409	231,979	247,298	263,629	303,122	349,352
45-59	320,723	320,778	318,195	315,633	318,285	336,256
15-59	1,196,862	1,238,142	1,263,704	1,292,531	1,327,676	1,364,572

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE E (continued)

	1978	1980	1982	1984	1988	1992
Region 7:						
New York City						
Ages 15-19	566,768	535,230	516,409	498,250	440,961	423,388
20-24	639,505	645,267	608,668	574,145	528,221	496,432
25-29	624,924	609,572	615,982	622,460	573,627	522,447
30-34	548,269	568,330	555,074	542,126	544,439	520,487
35-44	836,446	845,521	877,252	910,174	934,217	934,664
45-59	1,167,571	1,112,731	1,065,845	1,020,934	981,728	993,624
15-59	4,383,483	4,316,651	4,239,230	4,168,089	4,003,193	3,891,042
Region 8:						
Long Island						
Ages 15-19	277,121	275,715	251,203	228,870	182,541	166,250
20-24	252,537	268,116	266,694	265,280	230,112	186,183
25-29	229,337	262,948	278,677	295,346	301,428	273,290
30-34	182,391	198,635	227,153	259,764	302,865	319,226
35-44	304,479	305,704	325,208	345,957	420,238	513,970
45-59	474,023	467,541	449,964	433,048	413,029	419,120
15-59	1,719,888	1,778,659	1,798,899	1,828,265	1,850,213	1,878,039

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE F

PROJECTED FULL-TIME, FIRST TIME UNDERGRADUATE POOLS FROM EACH REGENTS REGION BY AGE GROUP

	1978 Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%	#	%	#	%	#	%	#	%
Region 1: Western												
Ages HS Grad.	.465	12,452	11,220	- 9.9	10,545	-15.3	9,155	-26.5	8,549	-31.3	6,369	-48.9
20-24	.0102	1,519	1,500	- 1.3	1,441	- 5.1	1,383	- 9.0	1,214	-20.1	1,048	-31.0
25-29	.0067	908	919	1.2	934	2.9	949	4.5	896	- 1.3	797	-12.2
30-44	.0017	479	413	-13.8	441	- 7.9	472	- 1.5	525	9.6	556	16.1
HS Grad.-44		15,358	14,052	- 8.5	13,361	-13.0	11,959	-22.1	11,184	-27.8	8,770	-42.9
Region 2: Genesee Valley												
Ages HS Grad.	.373	7,770	7,570	- 2.6	7,520	- 3.2	6,379	-17.9	6,487	-16.5	4,637	-40.3
20-24	.0074	913	949	3.9	939	2.8	929	1.8	837	- 8.3	726	-20.5
25-29	.0023	254	266	4.7	276	8.7	287	13.0	286	12.6	265	4.3
30-44	.0008	191	201	5.2	213	11.5	226	18.3	250	30.9	268	40.3
HS Grad.-44		9,128	8,986	- 1.6	8,948	- 2.0	7,821	-14.3	7,860	-13.9	5,896	-35.4
Region 3: Central												
Ages HS Grad.	.455	9,681	9,575	- 1.1	9,221	- 4.8	7,734	-20.1	7,801	-19.4	5,685	-41.3
20-24	.0044	607	632	4.1	628	3.5	624	2.8	578	- 4.8	521	-14.2
25-29	.0017	178	189	6.2	196	10.1	203	14.0	204	14.6	190	6.7
30-44	.0008	176	185	5.1	197	11.9	211	19.9	235	33.5	255	44.9
HS Grad.-44		10,642	10,581	- 0.6	10,242	- 3.8	8,772	-17.6	8,818	-17.1	6,651	-37.5
Region 4: Northern												
Ages HS Grad.	.396	1,886	1,897	0.6	1,850	- 1.9	1,577	-16.4	1,577	-16.4	1,206	-36.1
20-24	.0039	117	120	2.6	119	1.7	117	0.0	108	- 7.7	100	-14.5
25-29	.0011	23	26	13.0	27	17.4	27	17.4	27	17.4	25	8.7
30-44	.0006	26	27	3.8	30	15.4	32	23.1	38	46.2	42	61.5
HS Grad.-44		2,052	2,070	0.9	2,026	- 1.3	1,753	-14.6	1,750	-14.7	1,373	-33.1

FIGURE F (continued)

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%	#	%	#	%	#	%	#	%
Region 5:												
Northeast												
Ages HS Grad.	.441	10,421	10,517	0.9	10,250	- 1.6	9,101	-12.7	8,809	-15.5	6,781	-34.9
20-24	.0069	1,011	1,051	4.0	1,046	3.5	1,042	3.1	974	- 3.7	891	-11.9
25-29	.0024	292	313	7.2	326	11.6	339	16.1	343	17.5	324	11.0
30-44	.0014	372	393	5.6	423	13.7	455	22.3	516	38.7	567	52.4
HS Grad.-44		12,096	12,274	1.5	12,045	- 0.4	10,937	- 9.6	10,642	-12.0	8,563	-29.2
Region 6:												
Mid-Hudson												
Ages HS Grad.	.488	15,187	15,217	0.2	15,141	- 0.3	13,156	-13.4	12,263	-19.3	9,584	-36.9
20-24	.0070	1,530	1,637	7.0	1,648	7.7	1,660	8.5	1,522	- 0.5	1,319	-13.8
25-29	.0028	417	448	7.4	478	14.6	510	22.3	531	27.3	503	20.6
30-44	.0016	582	608	4.5	650	11.7	695	19.4	797	36.9	894	53.6
HS Grad.-44		17,716	17,910	1.1	17,917	1.1	16,021	- 9.6	15,113	-14.7	12,300	-30.6
Region 7:												
New York City												
Ages HS Grad.	.543	35,823	36,135	0.9	35,917	0.3	32,895	- 8.2	29,435	-17.8	22,504	-37.2
20-24	.0068	4,349	4,388	0.9	4,139	-4.8	3,904	-10.2	3,592	-17.4	3,376	-22.4
25-29	.0029	1,812	1,768	-2.4	1,786	-1.4	1,805	- 0.4	1,664	- 8.2	1,515	-16.4
30-44	.0020	2,769	2,828	2.1	2,865	3.5	2,905	4.9	2,957	6.8	2,910	5.1
HS Grad.-44		44,753	45,119	0.8	44,707	-0.1	41,509	- 7.2	37,648	-15.9	30,305	-32.3
Region 8:												
Long Island												
Ages HS Grad.	.375	18,957	18,248	- 3.7	16,879	-11.0	14,733	-22.3	14,070	-25.8	11,400	-39.9
20-24	.0152	3,839	4,075	6.1	4,054	5.6	4,032	5.0	3,498	- 8.9	2,830	-26.3
25-29	.0095	2,179	2,498	14.6	2,647	21.5	2,806	28.8	2,864	31.4	2,596	19.1
30-44	.0051	2,483	2,572	3.6	2,817	13.5	3,089	24.4	3,688	48.5	4,249	71.1
		27,458	27,393	- 0.2	26,397	- 3.9	24,660	-10.2	24,120	-12.2	21,075	-23.2

FIGURE G

PROJECTED PART-TIME UNDERGRADUATE POOLS FROM EACH REGENTS REGION BY AGE GROUP

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%[1]	#	%	#	%	#	%	#	%
Region 1: Western												
Ages 15-19	.0113	1,741	1,675	-3.8	1,561	-10.3	1,455	-16.4	1,256	-27.8	1,199	-31.2
20-24	.0361	5,375	5,471	1.8	5,253	- 2.3	5,043	- 6.2	4,427	-17.6	3,821	-28.9
25-29	.0316	4,281	4,537	6.0	4,611	7.7	4,687	9.5	4,425	3.4	3,935	- 8.1
30-34	.0249	2,764	3,027	9.5	3,205	15.9	3,393	22.7	3,569	29.1	3,471	25.6
35-44	.0107	1,827	1,853	1.4	1,996	9.2	2,150	17.7	2,482	35.8	2,760	51.1
45-59	.0038	1,048	1,014	-3.3	991	- 7.4	929	-11.4	888	-15.3	915	-12.7
15-59		17,036	17,577	3.2	17,617	3.4	17,657	3.6	17,047	0.1	16,101	5.5
Region 2: Genesee Valley												
Ages 15-19	.0103	1,299	1,285	-1.1	1,208	- 7.0	1,136	-12.5	981	-24.5	940	-27.6
20-24	.0385	4,751	4,940	4.0	4,886	2.8	4,833	1.7	4,357	- 8.3	3,780	-20.4
25-29	.0378	4,178	4,373	4.7	4,540	8.7	4,713	12.8	4,707	12.6	4,349	4.1
30-34	.0293	2,783	2,969	6.7	3,102	11.5	3,242	16.5	3,507	26.0	3,598	29.3
35-44	.0151	2,178	2,268	4.1	2,427	11.4	2,598	19.3	2,915	33.8	3,211	47.4
45-59	.0058	1,151	1,119	-2.8	1,092	- 5.1	1,066	- 7.4	1,077	- 6.4	1,153	0.2
15-59		16,340	16,954	3.8	17,255	5.6	17,588	7.6	17,544	7.4	17,031	4.2
Region 3: Central												
Ages 15-19	.0083	1,147	1,143	-0.4	1,086	- 5.3	1,032	-10.0	923	-19.5	895	-21.9
20-24	.0288	3,975	4,139	4.1	4,113	3.5	4,087	2.8	3,783	- 4.8	3,412	-14.2
25-29	.0253	2,652	2,815	6.2	2,915	9.9	3,018	13.8	3,029	14.2	2,834	6.9
30-34	.0227	1,968	2,113	7.4	2,242	13.9	2,378	20.9	2,583	31.2	2,656	35.0
35-44	.0138	1,846	1,909	-3.4	2,042	10.6	2,186	18.4	2,489	34.8	2,785	50.8
45-59	.0061	1,173	1,148	-2.2	1,120	- 4.6	1,092	- 6.9	1,128	- 3.9	1,197	2.0
15-59		12,761	13,267	4.0	13,518	5.9	13,793	8.1	13,935	9.2	13,779	8.0

[1] Percentage change from 1978 level

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE G (continued)

		Participation Rate	Year 1978	1980		1982		1984		1988		1992	
			#	#	%[1]	#	%	#	%	#	%	#	%
Region 4: Northern													
Ages	15-19	.0061	188	186	- 0.7	177	- 5.9	167	-10.8	156	-17.0	156	-17.0
	20-24	.0136	409	418	2.4	414	1.2	409	0.1	376	- 8.0	347	-15.0
	25-29	.0197	407	469	15.3	479	17.7	489	20.1	480	17.9	439	8.0
	30-34	.0216	347	367	6.0	424	22.2	488	40.9	539	55.6	540	55.7
	35-44	.0141	384	395	2.8	419	9.0	444	15.5	534	39.0	638	66.1
	45-59	.0038	159	156	- 1.6	155	- 2.1	154	- 2.7	155	- 2.3	162	2.0
	15-59		1,894	1,991	5.1	2,068	9.2	2,151	13.6	2,240	18.3	2,282	20.5
Region 5: Northeast													
Ages	15-19	.0108	1,622	1,621	- 0.1	1,549	- 4.5	1,480	- 8.8	1,342	-17.3	1,329	-18.1
	20-24	.0318	4,658	4,844	4.0	4,822	3.5	4,800	3.1	4,487	- 3.7	4,108	-11.8
	25-29	.0344	4,180	4,485	7.3	4,667	11.7	4,857	16.2	4,912	17.5	4,646	11.1
	30-34	.0276	2,851	3,065	7.5	3,286	15.3	3,523	23.6	3,871	35.8	4,011	40.7
	35-44	.0183	2,969	3,101	4.4	3,349	12.8	3,616	21.8	4,180	40.8	4,749	59.9
	45-59	.0076	1,877	1,835	- 2.3	1,796	- 4.3	1,758	- 6.4	1,784	- 5.0	1,926	2.6
	15-59		18,157	18,951	4.4	19,469	7.2	20,034	10.3	20,576	13.3	20,769	14.4
Region 6: Mid-Hudson													
Ages	15-19	.0154	2,806	2,822	0.6	2,654	- 5.4	2,496	-11.1	2,127	-24.2	1,994	-28.9
	20-24	.0426	7,244	7,747	6.9	7,802	7.7	7,858	8.5	7,203	- 0.6	6,242	-13.8
	25-29	.0298	4,775	5,131	7.4	5,476	14.7	5,844	22.4	6,089	27.5	5,765	20.7
	30-34	.0319	4,378	4,725	7.9	5,072	15.8	5,443	24.3	6,212	41.9	6,683	52.7
	35-44	.0208	4,709	4,825	2.5	5,144	9.2	5,483	16.4	6,305	33.9	7,267	54.3
	45-59	.0079	2,534	2,534	0.0	2,514	- 0.8	2,494	- 1.6	2,514	- 0.8	2,656	4.8
	15-59		26,446	27,784	5.1	28,662	8.4	29,618	12.0	30,450	15.1	30,607	15.7

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE G (continued)

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%[1]	#	%	#	%	#	%	#	%
Region 7: New York City												
Ages 15-19	.0152	8,615	8,135	- 5.6	7,849	- 8.9	7,573	-12.1	6,703	-22.2	6,435	-25.3
20-24	.0372	23,790	24,004	0.9	22,642	- 4.8	21,358	-10.2	19,650	-17.4	18,467	-22.4
25-29	.0276	17,248	16,824	- 2.5	17,001	- 1.4	17,180	- 0.4	15,832	- 8.2	14,420	-16.4
30-34	.0227	12,446	12,901	3.7	12,600	1.2	12,306	1.1	12,359	0.7	11,815	5.1
35-44	.0142	11,878	12,006	1.1	12,457	4.9	12,924	8.8	13,266	11.7	13,272	11.7
45-59	.0068	7,939	7,567	- 4.7	7,248	- 8.7	6,942	-12.6	6,676	-15.9	6,757	-14.9
15-59		81,916	81,437	- 0.6	79,797	- 2.6	78,283	- 4.4	74,486	- 9.1	71,166	-13.1
Region 8: Long Island												
Ages 15-19	.0189	5,238	5,211	- 0.5	4,748	- 9.4	4,326	-17.4	3,450	-34.1	3,142	-40.0
20-24	.0495	12,501	13,272	6.2	13,201	5.6	13,131	5.0	11,391	- 8.9	9,216	-26.3
25-29	.0342	7,843	8,993	14.7	9,531	21.5	10,101	28.8	10,309	31.4	9,347	19.2
30-34	.0373	6,803	7,409	8.9	8,473	24.5	9,689	42.4	11,297	66.1	11,907	75.0
35-44	.0187	5,694	5,717	0.4	6,081	6.8	6,469	13.6	7,858	38.0	9,611	68.8
45-59	.0074	3,508	3,460	- 1.4	3,330	- 5.1	3,205	- 8.6	3,056	-12.9	3,101	-11.6
15-59		41,587	44,062	6.0	45,364	9.1	46,921	12.8	47,361	13.9	46,324	11.4

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE H

PROJECTED FULL-TIME GRADUATE POOLS FROM EACH REGENTS REGION BY AGE GROUP

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%[1]	#	%	#	%	#	%	#	%
Region 1: Western												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0061	908	924	1.8	888	- 2.3	852	- 6.2	748	-17.6	646	-28.9
25-29	.0069	935	991	6.0	1,007	7.7	1,023	9.5	966	3.4	859	- 8.1
30-34	.0032	355	389	9.5	412	15.9	436	22.7	459	29.1	446	25.6
35-44	.0012	205	208	1.4	224	9.2	241	17.7	278	35.8	310	51.1
45-59	.0002	55	53	-3.3	51	- 7.4	49	-11.4	47	-15.3	48	-12.7
15-59		2,458	2,565	4.4	2,582	5.0	2,601	5.8	2,498	1.6	2,309	- 6.1
Region 2: Genesee Valley												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0047	580	603	4.0	596	2.8	590	1.7	532	- 8.3	461	-20.4
25-29	.0045	497	521	4.7	540	8.7	561	12.8	560	12.6	518	4.1
30-34	.0019	180	193	6.7	201	11.5	210	16.5	227	26.0	233	29.3
35-44	.0005	72	75	4.1	80	11.4	86	19.3	97	33.8	106	47.4
45-59	.0001	20	19	-2.8	19	- 5.1	18	- 7.4	19	- 6.4	20	0.2
15-59		1,349	1,411	4.6	1,436	6.4	1,465	8.6	1,435	6.4	1,338	- 0.8
Region 3: Central												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0105	1,449	1,509	4.1	1,499	3.5	1,490	2.8	1,379	- 4.8	1,244	-14.2
25-29	.0121	1,268	1,346	6.2	1,394	9.9	1,443	13.8	1,449	14.2	1,355	6.9
30-34	.0049	425	456	7.4	484	13.9	513	20.9	558	31.2	573	35.0
35-44	.0013	174	180	-3.4	192	10.6	206	18.4	234	34.8	262	50.8
45-59	.0002	38	38	-2.2	37	- 4.6	36	- 6.9	37	- 3.9	39	3.5
15-59		3,354	3,529	5.2	3,606	7.5	3,688	10.0	3,657	9.0	3,473	3.5

[1] Percentage change from 1978 level

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE H (continued)

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%[1]	#	%	#	%	#	%	#	%
Region 4: Northern												
Ages 15-19	.0001	3	3	0.0	3	0.0	3	0.0	3	0.0	3	0.0
20-24	.0041	123	126	2.4	125	1.2	123	0.1	113	- 8.0	105	-15.0
25-29	.0023	48	55	15.3	56	17.7	57	20.1	56	17.9	51	8.0
30-34	.0012	19	20	6.0	24	22.2	27	40.9	30	55.6	30	55.7
35-44	.0002	5	6	2.8	6	9.0	6	15.5	8	39.0	9	66.1
45-59	.0001	4	4	- 1.6	4	- 2.1	4	- 2.7	4	- 2.3	4	2.0
15-59		202	214	5.9	218	7.9	220	8.9	214	5.9	202	0.0
Region 5: Northeast												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0064	937	975	4.0	970	3.5	966	3.1	903	- 3.7	827	-11.8
25-29	.0053	644	691	7.3	719	11.7	748	16.2	757	17.5	716	11.1
30-34	.0021	217	233	7.5	250	15.3	268	23.6	294	35.8	305	40.7
35-44	.0007	114	119	4.4	128	12.8	138	21.8	160	40.8	182	59.9
45-59	.0001	25	24	-2.3	24	- 4.3	23	- 6.4	23	- 5.0	25	2.6
15-59		1,937	2,042	5.4	2,091	8.0	2,143	10.6	2,137	10.3	2,055	6.1
Region 6: Mid-Hudson												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0055	935	1,000	6.9	1,007	7.7	1,014	8.5	930	0.6	806	-13.8
25-29	.0048	929	999	7.4	1,066	14.7	1,137	22.4	1,185	27.5	1,122	20.7
30-34	.0029	398	430	7.9	461	15.8	495	24.3	565	41.9	608	52.7
35-44	.0014	317	325	2.5	346	9.2	369	16.4	424	33.9	489	54.3
45-59	.0003	96	96	0.0	95	- 0.8	95	- 1.6	95	- 0.8	101	4.8
15-59		2,675	2,850	6.5	2,975	11.2	3,110	16.3	3,199	19.6	3,126	16.9

[1] Percentage change from 1978 level

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE H (continued)

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%	#	%	#	%	#	%	#	%
Region 7: New York City												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0070	4,477	4,517	0.9	4,261	- 4.8	4,019	-10.2	3,698	17.4	3,475	-22.4
25-29	.0075	4,687	4,572	- 2.5	4,620	- 1.4	4,668	- 0.4	4,302	- 8.2	3,918	-16.4
30-34	.0041	2,248	2,330	3.7	2,276	1.2	2,223	1.1	2,232	0.7	2,134	5.1
35-44	.0018	1,506	1,522	1.1	1,579	4.9	1,638	8.8	1,682	11.7	1,682	11.7
45-59	.0006	700	668	- 4.7	640	- 8.7	613	-12.6	589	-15.9	596	-14.9
15-59		13,618	13,609	- 0.1	13,376	- 1.8	13,161	- 3.4	12,503	- 8.2	11,805	-13.3
Region 8: Long Island												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0065	1,641	1,743	6.2	1,734	5.6	1,724	5.0	1,496	- 8.9	1,210	-26.3
25-29	.0048	1,101	1,262	14.7	1,338	21.5	1,418	28.8	1,447	31.4	1,312	19.2
30-34	.0021	383	417	8.9	477	24.5	546	42.4	636	66.1	670	75.0
35-44	.0006	183	183	0.4	195	6.8	208	13.6	252	38.0	308	68.8
45-59	.0002	95	94	- 1.4	90	- 5.1	87	- 8.6	83	-12.9	83	-11.6
15-59		3,403	3,699	8.7	3,834	12.7	3,983	17.0	3,914	15.0	3,583	5.3

[1] Percentage change from 1978 level

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE I

PROJECTED PART-TIME GRADUATE POOLS FROM EACH REGENTS REGION BY AGE GROUP

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%[1]	#	%	#	%	#	%	#	%
Region 1: Western												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0079	1,176	1,197	1.8	1,149	- 2.3	1,104	- 6.2	969	-17.6	836	-28.9
25-29	.0165	2,235	2,369	6.0	2,408	7.7	2,447	9.5	2,311	3.4	2,055	- 8.1
30-34	.0113	1,255	1,374	9.5	1,454	15.9	1,540	22.7	1,620	29.1	1,575	25.6
35-44	.0067	1,144	1,160	1.4	1,250	9.2	1,346	17.7	1,554	35.8	1,728	51.1
45-59	.0017	469	454	-3.3	434	- 7.4	416	-11.4	397	-15.3	409	-12.7
15-59		6,279	6,554	4.4	6,695	6.6	6,853	9.1	6,851	9.1	6,603	5.2
Region 2: Genesee Valley												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0090	1,111	1,155	4.0	1,142	2.8	1,130	1.7	1,091	- 8.3	884	-20.4
25-29	.0201	2,222	2,325	4.7	2,414	8.7	2,506	12.8	2,503	12.6	2,313	4.1
30-34	.0131	1,234	1,327	6.7	1,387	11.5	1,450	16.5	1,568	26.0	1,608	29.3
35-44	.0061	880	916	4.1	980	11.4	1,049	19.3	1,178	33.8	1,297	47.4
45-59	.0018	357	347	-2.8	339	- 5.1	331	- 7.4	334	- 6.4	358	0.2
15-59		5,804	6,070	4.6	6,262	7.9	6,466	11.4	6,602	13.7	6,460	11.3
Region 3: Central												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0073	1,008	1,049	4.1	1,042	3.5	1,036	2.8	959	- 4.8	865	-14.2
25-29	.0223	2,337	2,481	6.2	2,569	9.9	2,660	13.8	2,670	14.2	2,498	6.9
30-34	.0143	1,240	1,331	7.4	1,412	13.9	1,498	20.9	1,627	31.2	1,673	35.0
35-44	.0072	963	996	-3.4	1,066	10.6	1,140	18.4	1,299	34.8	1,453	50.8
45-59	.0021	404	395	-2.2	385	- 4.6	376	- 6.9	388	- 3.9	412	2.0
15-59		5,952	6,252	5.0	6,474	8.8	6,710	12.7	6,943	16.6	6,901	15.9

[1] Percentage change from 1978 level

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE I (continued)

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%	#	%	#	%	#	%	#	%
Region 4: Northern												
Ages 15-19	.0001	3	3	0.0	3	0.0	3	0.0	3	0.0	3	0.0
20-24	.0040	120	123	2.4	122	1.2	120	0.1	111	- 8.0	102	-15.0
25-29	.0157	324	374	15.3	382	17.7	389	20.1	382	17.9	350	8.0
30-34	.0099	159	168	6.0	194	22.2	224	40.9	247	55.6	247	55.7
35-44	.0053	144	148	2.8	157	9.0	167	15.5	201	39.0	240	66.1
45-59	.0007	29	29	- 1.6	29	- 2.1	28	- 2.7	29	- 2.3	30	2.0
15-59		779	845	8.5	887	13.9	931	19.5	973	24.9	972	24.8
Region 5: Northeast												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0080	1,172	1,219	4.0	1,213	3.5	1,208	3.1	1,129	- 3.7	1,034	-11.8
25-29	.0233	2,831	3,038	7.3	3,161	11.7	3,290	16.2	3,327	17.5	3,147	11.1
30-34	.0154	1,591	1,710	7.5	1,833	15.3	1,965	23.6	2,160	35.8	2,238	40.7
35-44	.0065	1,055	1,101	4.4	1,189	12.8	1,284	21.8	1,485	40.8	1,687	59.9
45-59	.0018	445	435	- 2.3	425	- 4.3	416	- 6.4	423	- 5.0	456	2.6
15-59		7,094	7,503	5.8	7,821	10.2	8,163	15.1	8,524	20.2	8,562	20.7
Region 6: Mid-Hudson												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0103	1,752	1,873	6.9	1,886	7.7	1,900	8.5	1,744	- 0.6	1,509	-13.8
25-29	.0219	3,509	3,771	7.4	4,024	14.7	4,295	22.4	4,475	27.5	4,237	20.7
30-34	.0143	1,962	2,118	7.9	2,273	15.8	2,440	24.3	2,785	41.9	2,996	52.7
35-44	.0075	1,698	1,740	2.5	1,855	9.2	1,977	16.4	2,273	33.9	2,620	54.3
45-59	.0024	770	770	0.0	764	- 0.8	758	- 1.6	764	- 0.8	807	4.8
15-59		9,691	10,272	6.0	10,802	11.5	11,370	17.3	12,038	24.2	12,169	25.6

[1] Percentage change from 1978 level

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE I (continued)

	Participation Rate	Year 1978	1980		1982		1984		1988		1992	
		#	#	%	#	%	#	%	#	%	#	%
Region 7:												
New York City												
Ages 15-19	.0000	--	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0
20-24	.0108	6,907	6,969	0.9	6,574	- 4.8	6,201	-10.2	5,705	-17.4	5,361	-22.4
25-29	.0204	12,748	12,435	-2.5	12,566	- 1.4	12,698	- 0.4	11,702	- 8.2	10,658	-16.4
30-34	.0142	7,785	8,070	3.7	7,882	1.2	7,698	1.1	7,731	0.7	7,391	5.1
35-44	.0072	6,022	6,088	1.1	6,316	4.9	6,553	8.8	6,726	11.7	6,730	11.4
45-59	.0025	2,919	2,782	-4.7	2,665	- 8.7	2,552	-12.6	2,454	-15.9	2,484	-14.9
15-59		36,381	36,344	-0.1	36,003	- 1.0	35,702	- 1.9	34,318	- 5.7	32,624	-10.3
Region 8:												
Long Island												
Ages 15-19	.0001	28	28	-0.5	25	- 9.4	23	-17.4	18	-34.1	17	-40.0
20-24	.0192	4,849	5,148	6.2	5,121	5.6	5,093	5.0	4,418	- 8.9	3,575	-26.3
25-29	.0239	5,481	6,284	-14.7	6,660	21.5	7,059	28.8	7,204	31.4	6,532	19.2
30-34	.0137	2,499	2,721	8.9	3,112	24.5	3,559	42.4	4,149	66.1	4,373	75.0
35-44	.0055	1,675	1,681	0.4	1,789	6.8	1,903	13.6	2,311	38.0	2,827	68.8
45-59	.0025	1,185	1,169	- 1.4	1,125	- 5.1	1,083	- 8.6	1,033	-12.9	1,048	-11.6
15-59		15,717	17,031	8.4	17,832	13.5	18,720	19.1	19,133	21.7	18,372	16.9

[1] Percentage change from 1978 level

SOURCE: Postsecondary Research Information Systems GLR/5/79

FIGURE J

CALCULATION OF HISTORICAL COLLEGE ENTRANCE INDICES
FTUG

Statewide:

A) Instate Participation Rate -- (Final Fall Total Full-Time, First-Time Freshmen From the Enrollment data Minus Out-of-State and Foreign Freshmen From the New York State Residence and Migration Data) Divided by (High School Graduates of the preceding spring as reported by the Information Center on Education -- ICE).

B) Out-State Participation Rate -- (Final Fall Full-Time, First-Time Freshmen Attending Institutions in the United States excepting New York State as reported by the National Residence and MIgration Data*) Divided by (High School Graduates of the Preceding Spring as reported by the New York State Information Center on Education -- ICE).

C) Total Participation Rate - C = A + B.

Regional:**

D) Instate Participation Rate = CGR

TFTFE = Statewide Total, Final Fall Full-Time, First-Time Freshmen From the New York State Enrollment Data

TFTFR = Statewide Total Final Fall Full-Time, First-Time Freshmen including unclassified, from the New York State Residence and Migration Data

UCG = Number of unclassified (in terms of region of student origin) reported by Institutions in Region R.

FTFR = Full-Time, First-Time Freshmen who are from (i.e., residents of) a given Region R.

HSGR = High School Graduates of the Preceding Spring who Graduated from Region R.

THSG = Statewide Total High School Graduates of the Preceding Spring.

$$\text{CGR (for Region R)} = \frac{\text{TFTFE - TFTFR}}{\text{(THSG)}} + \frac{\text{(UGR + FTFR)}}{\text{HSGR}}$$

---

*Available approximately every five years.

**This procedure assumes that the students represented by the difference between the enrollment and residence and migration data reports should be included and are distributed across the State in the same proportions as are the high school graduates. It is also assumed that unclassifieds are primarily from the region corresponding to the region in which the reporting institution is located.

FIGURE K

SUMMARY OF SELECTED COLLEGE PARTICIPATION RATE STATISTICS

New York State 1975

	Type of Full-Time, First-Time Students	Rate[1]
A	Previous Year's New York State High School Graduates Enrolled in New York State	45.7%
B	"Older" New York State Residents Enrolled in New York State[2]	11.4%
C	Residents of New York State Enrolled in Other States	12.9%
D	Residents of Other States Enrolled in New York State	6.4%
A+B	New York State Residents Enrolled in New York State (College Entrance Index - CEI)	57.1%
A+C	Previous Year's New York State High School Graduates Enrolled in the United States (Estimated CGR)	58.5%
A+B+D	All Freshmen Enrolled in New York State	63.5%
A+B+C	New York State Residents Enrolled in the United States	70.0%

NOTES:

[1]Calculated by dividing the number in each group by the number of New York State high school graduates in the previous spring.

[2]The actual percentage of older new students (20 years old or older) is estimated to be 18.7%. The 11.4% in this table related the number of older students to high school graduates for easier comparison in this table.

SOURCE: NYSED: Postsecondary Information Systems/HEDS. (GLR/27 Jun 78). National Center for Education Statistics (NCES).

FIGURE L

TRENDS IN FRESHMEN ENROLLMENTS
AND COLLEGE PARTICIPATION RATES

1963, 1968, 1975

	1963	1968	1975
	Full-Time First-Time Students		
Enrolled in New York State From New York State (A)	57,200	126,386	141,753
Enrolled in Other States From New York State (B)	22,928	31,151	31,828
Total From New York State (C)	80,128	157,537	173,581
Enrolled in New York State From Out-of-State	10,268	15,388	15,971
	High School Graduates		
New York State High School Graduates (E)	172,218	223,189	248,120
	College Entrance Indices (CEI)		
In-State CEI of New York State Residents (A/E)	.332	.561	.571
Out-of-State CEI of New York State Residents (B/E)	.133	.145	.129
Total New York State CEI (C/E)	.465	.706	.700

NOTE: Enrollment figures include both recent high school graduates and "adults."

SOURCES OF DATA: NYSED: Postsecondary Information Systems/HEDS (GLR/27 Jun 78).

Out-of-State Enrollments: NCES

High School Graduates: Information Center on Educaton

FIGURE M

TRENDS IN NEW YORK STATE
COLLEGE ENTRANCE INDICES BY REGION[3]

	1972	1973[1]	1974	1975	1976	1977	(Est.) 1978
Western	.484	.443	.529	.534	.522	.517	NA
Genesee Valley	.440	.404	.457	.498	.461	.467	NA
Central	.455	.457	.462	.540	.494	.478	NA
Northern	.429	.415	.439	.457	.427	.395	NA
Northeast	.472	.443	.494	.527	.518	.515	NA
Mid-Hudson	.440	.433	.442	.549	.519	.549	NA
New York City	.635	.681	.680	.701	.634	.696	NA
Long Island	.484	.490	.535	.547	.515	.529	NA
Out-of-State	.517	.517	.525	.530	.530	NA	NA
Statewide	.530	.539[2]	.567	.571	.543	.564	.577

NOTES:

[1]1973 historical, calculated from residence and migration data without adjusting to match the basic enrollment data. Consequently they are slightly low. Region figures from 1976 Statewide Plan.

[2]The correct adjusted value for 1973.

[3]These figures are based on in-State residents and enrollees.

Figures are full-time, first-time freshmen - High school Graduates

SOURCE: NYSED: Postsecondary Information Systems (GLR/9-78).

FIGURE N

COLLEGE ENTRANCE INDEX
BY SEX

Year	Men	Women	Resident Full-Time Freshmen
1972	58.7%	47.7%	127,296
1973	60.8%	50.1%	134,370
1974	64.2%	52.7%	142,146
1975	61.2%	53.6%	142,025
1976	56.9%	53.3%	136,927
1977	55.3%	58.0%	139,863 (est.)
1978	54.9%	60.5%	140,863 (est.)

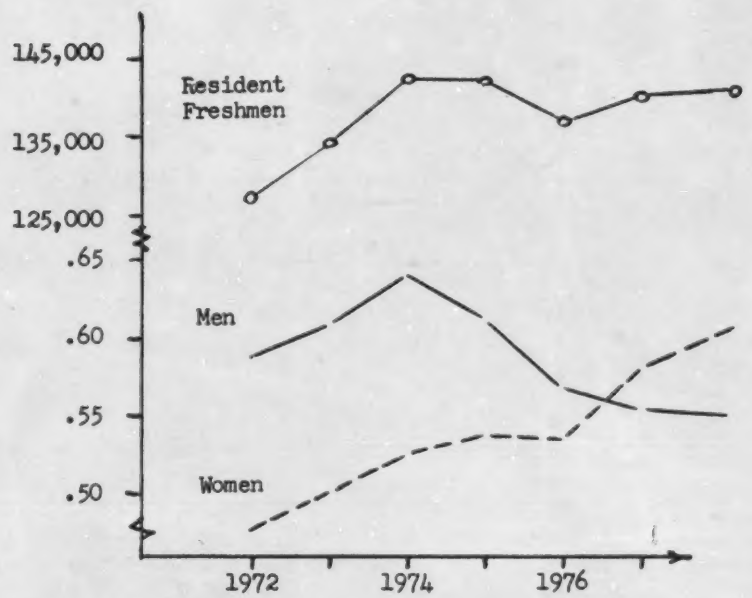


FIGURE O

INSTATE NEW YORK STATE
COLLEGE ENTRANCE INDICES BY COUNTY

1975-1977

	1975	1976	1977		1975	1976	1977
Albany	.573	.556	.626	Niagara	.609	.562	.489
Allegany	.438	.397	.381	Oneida	.582	.597	.587
Broome	.515	.478	.479	Onondaga	.614	.530	.523
Cattaraugus	.373	.348	.339	Ontario	.482	.426	.481
Cayuga	.512	.552	.513	Orange	.478	.443	.444
Chautauqua	.440	.437	.408	Orleans	.382	.344	.383
Chemung	.507	.399	.512	Oswego	.403	.355	.311
Chenango	.353	.410	.414	Otsego	.495	.448	.446
Clinton	.425	.375	.497	Putnam	.599	.493	.552
Columbia	.493	.453	.535	Rensselaer	.546	.485	.498
Cortland	.499	.450	.467	Rockland	.616	.620	.682
Delaware	.428	.397	.521	St. Lawrence	.448	.444	.414
Dutchess	.516	.472	.474	Saratoga	.461	.429	.424
Erie	.554	.559	.563	Schenectady	.581	.600	.543
Essex	.569	.598	.497	Schoharie	.370	.375	.334
Franklin	.366	.507	.343	Schuyler	.526	.390	.500
Fulton	.509	.475	.423	Seneca	.421	.376	.452
Genesee	.560	.498	.431	Steuben	.500	.519	.471
Greene	.417	.470	.510	Suffolk	.473	.444	.483
Hamilton	.692	.633	.655	Sullivan	.622	.574	.529
Herkimer	.542	.504	.513	Tioga	.466	.442	.466
Jefferson	.460	.444	.414	Tompkins	.587	.544	.463
Lewis	.348	.347	.349	Ulster	.540	.478	.496
Livingston	.466	.466	.429	Warren	.395	.400	.357
Madison	.460	.432	.485	Washington	.378	.336	.311
Monroe	.517	.488	.486	Wayne	.369	.361	.350
Montgomery	.534	.520	.513	Westchester	.523	.512	.562
Nassau	.600	.570	.568	Wyoming	.529	446	.455
				Yates	.487	.470	.473
Manhattan	.571	.547	.591				
Bronx	.731	.689	.743				
Kings	.741	.697	.776				
Queens	.691	.602	.693				
Richmond	.584	.470	.497				

NOTE

Residents attending out-of-state instituitons are not included. The out-of-state rate has typically been about 13 percent.

SOURCE: NYSED: Postsecondary Information Systems/HEDS (GLR/9-78).

FIGURE Q

NEW YORK STATE
PARTICIPATION RATES BY REGENTS
REGION AND CLASS OF STUDENT

N.Y.S. Enrolled Full-Time Graduates ÷ N.Y.S. Population (Ages 15-59)

Regents Region From	1974	1975	1976
Western	.24%	.27%	.29%
Genesee Valley	.17	.18	.22
Central	.39	.52	.41
Northern	.15	.19	.17
Northeast	.20	.22	.24
Mid-Hudson	.24	.23	.27
New York City	.32	.32	.36
Long Island	.22	.25	.25
Out-of-State*	.011	.013	.011

N.Y.S. Enrolled Part-Time Graduates ÷ N.Y.S. Population (Ages 15-59)

Regents Region From	1974	1975	1976
Western	.77%	.78%	.68%
Genesee Valley	.86	.87	.75
Central	.98	.96	.81
Northern	.72	.73	.63
Northeast	.90	.87	.78
Mid-Hudson	.95	.94	.90
New York City	1.15	1.09	.89
Long Island	1.04	1.15	.88
Out-of-State*	.011	.011	.011

N.Y.S. Enrolled Part-Time Undergraduates ÷ N.Y.S. Population (Ages 15-59)

Regents Region From	1974	1975	1976
Western	1.50%	1.83%	1.76%
Genesee Valley	1.93	2.18	2.05
Central	1.53	1.82	1.57
Northern	1.20	1.29	1.11
Northeast	1.68	1.92	1.81
Mid-Hudson	2.14	2.33	2.17
New York City	2.39	2.50	2.01
Long Island	1.97	2.21	2.17
Out-of-State*	.007	.008	.007

*Nonresidents of New York State.

SOURCE: Office of Postsecondary Research, Information Systems and Institutional Aid (GLR-9/28/77)

FIGURE P

NEW YORK STATE
STATEWIDE PARTICIPATION RATES*

	PTUG	FTGR	PTGR	FT & PT FPRO	Total	FTUG	Grand Total
1970	1.60%	.39%	.94%	.15%	3.08%	4.17%	7.25%
1971	1.65	.40	.99	.16	3.20	4.40	7.60
1972	1.83	.40	1.06	.16	3.45	4.43	7.88
1973	2.04	.41	1.11	.16	3.72	4.58	8.30
1974	2.17	.42	1.15	.17	3.91	4.76	8.67
1975	2.36	.43	1.14	.17	4.10	5.05	9.15
1976	2.09	.42	.96	.18	3.65	4.92	8.57
1977	2.04	.41	.92	.20	3.57	4.92	8.49
1978	2.06	.41	.88	.21	3.56	4.84	8.40

*NYS Enrollment ÷ Population Ages 15-59: Includes out-of-state and Foreign.
FTUG = Full-Time Undergraduate
PTUG = Part-Time Undergraduate
FTGR = Full-Time Graduate
PTGR = Part-Time Graduate
FT & PT FPRO = Full-Time and Part-Time First Professional

SOURCE: Office of Postsecondary Research, Information Systems and Institutional Aid. (GLR-8/79)

FIGURE Q (continued)

N.Y.S. Enrolled First-Professionals ÷ N.Y.S. Population (Ages 15-59)

Regents Region From	1974	1975	1976
Western	1.18%	1.36%	1.44%
Genesee Valley	.64	.70	.79
Central	.91	1.05	1.33
Northern	.47	.57	.64
Northeast	.81	.85	1.01
Mid-Hudson	1.30	1.28	1.60
New York City	1.58	1.66	1.74
Long Island	1.42	1.66	1.81
Out-of-State*	.003	.004	.003

*Nonresidents of New York State.

SOURCE: Office of Postsecondary Research, Information Systems and Institutional Aid. (GLR-9/28/77)

FIGURE R

NEW YORK STATE
PARTICIPATION RATES BY REGENTS REGION
AND CLASS OF STUDENT[1]

1977

Regents Region of Residence	Age 15-19	20-24	25-29	30-34	35-44	45-59
Part-Time Undergraduate						
Western	1.13%	3.61%	3.16%	2.49%	1.07%	0.38%
Genesee Valley	1.03	3.85	3.78	2.93	1.51	0.58
Central	0.83	2.88	2.53	2.27	1.38	0.61
Northern	0.61	1.36	1.97	2.16	1.41	0.38
Northeast	1.08	3.18	3.44	2.76	1.83	0.76
Mid-Hudson	1.54	4.26	2.98	3.19	2.08	0.79
New York City	1.52	3.72	2.76	2.27	1.42	0.68
Long Island	1.89	4.95	3.42	3.73	1.87	0.74
Statewide	1.38	3.80	3.03	2.68	1.57	0.67
Full-time Graduates						
Western	--	0.61	0.69	0.32	0.12	0.02
Genesee Valley	--	0.47	0.45	0.19	0.05	0.01
Central	--	1.05	1.21	0.49	0.13	0.02
Northern	--	0.41	0.23	0.12	0.02	0.01
Northeast	--	0.64	0.53	0.21	0.07	0.01
Mid-Hudson	--	0.55	0.58	0.29	0.14	0.03
New York City	--	0.70	0.75	0.41	0.18	0.06
Long Island	--	0.65	0.48	0.21	0.06	0.02
Statewide	--	0.67	0.68	0.33	0.13	0.03
Part-Time Graduates						
Western	0.00	0.79	1.65	1.13	0.67	0.17
Genesee Valley	0.00	0.90	2.01	1.31	0.61	0.18
Central	0.00	0.73	2.23	1.43	0.72	0.21
Northern	0.01	0.40	1.57	0.99	0.53	0.07
Northeast	0.00	0.80	2.33	1.54	0.65	0.18
Mid-Hudson	0.00	1.03	2.19	1.43	0.75	0.24
New York City	0.00	1.08	2.04	1.42	0.72	0.25
Long Island	0.01	1.92	2.39	1.37	0.55	0.25
Statewide	0.00	1.10	2.09	1.39	0.68	0.23

[1]Residents attending in New York State.

SOURCE: NYSED: Postsecondary Information Systems. (GLR, 7/79)

FIGURE S

PARTICIPATION RATES BY AGE GROUP, REGENTS REGION, AND TYPE OF ENROLLMENT FOR 1975 AND 1976****

	1975 Regents Regions								1976 Regents Regions							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
15-19																
*PTUG	.0133	.0184	.0105	.0046	.0146	.0102	.0197	.0228	.0131	.0176	.0093	.0041	.0140	.0097	.0162	.0230
**PTGR	-	.0002	.0002	-	-	-	-	.0001	-	.0002	.0002	-	-	-	-	.0001
***FTGR	-	.00002	-	-	-	-	.0006	.00004	-	.00002	-	-	-	-	.0006	.00004
20-24																
PTUG	.0431	.0459	.0363	.0167	.0346	.0532	.0600	.0498	.0413	.0430	.0313	.0145	.0326	.0489	.0478	.0484
PTGR	.0123	.0161	.0127	.0130	.0106	.0138	.0041	.0159	.0105	.0136	.0104	.0109	.0105	.0129	.0033	.0124
FTGR	.0081	.0046	.0143	.0053	.0065	.0060	.0156	.0065	.0080	.0050	.0109	.0040	.0065	.0064	.0169	.0058
25-29																
PTUG	.0300	.0365	.0315	.0299	.0336	.0483	.0354	.0379	.0282	.0340	.0268	.0243	.0311	.0442	.0287	.0351
PTGR	.0244	.0242	.0320	.0261	.0230	.0288	.0310	.0355	.0205	.0204	.0259	.0205	.0226	.0280	.0252	.0287
FTGR	.0072	.0044	.0140	.0061	.0058	.0064	.0038	.0085	.0070	.0048	.0105	.0043	.0057	.0068	.0042	.0073
30-34																
FTUG	.0265	.0301	.0266	.0233	.0272	.0390	.0305	.0304	.0244	.0278	.0226	.0199	.0252	.0356	.0239	.0291
PTGR	.0135	.0124	.0168	.0127	.0116	.0145	.0166	.0177	.0111	.0104	.0135	.0105	.0114	.0135	.0132	.0136
FTGR	.0040	.0023	.0075	.0030	.0030	.0033	.0021	.0043	.0038	.0025	.0056	.0023	.0029	.0035	.0023	.0038
35-44																
PTUG	.0132	.0142	.0137	.0125	.0176	.0167	.0147	.0154	.0127	.0133	.0118	.0108	.0165	.0157	.0117	.0155
PTGR	.0062	.0062	.0078	.0047	.0061	.0081	.0141	.0109	.0053	.0053	.0064	.0040	.0060	.0077	.0113	.0088
FTGR	.0009	.0009	.0014	.0001	.0007	.0014	.0001	.0008	.0009	.0009	.0011	.0001	.0007	.0015	.0001	.0007
45-59																
PTUG	.0047	.0054	.0057	.0068	.0062	.0045	.0103	.0045	.0047	.0052	.0051	.0060	.0061	.0043	.0084	.0045
PTGR	.0017	.0023	.0016	.0013	.0018	.0031	.0044	.0040	.0015	.0020	.0014	.0011	.0018	.0030	.0036	.0032
FTGR	.0002	.0005	.0002	-	.0002	.0003	-	.0002	.0002	.0005	.0002	-	.0002	.0003	-	.0002

*Part-time Undergraduate
**Part-time Graduate
***Full-time Graduate
****Estimated using SUNY Age Distributions.

SOURCE: Office of Postsecondary Research, Information Systems and Institutional Aid. (GLR/11-77)

FIGURE T

COMPARISON OF NEW YORK STATE
PARTICIPATION RATES ACROSS TYPES OF ENROLLMENT

Type of Enrollment	Age 15-19	20-24	25-29	30-34	35-44	45-59
	All rates as a proportion of the 20-24 rate					
Full-Time Undergraduate	1.03%	1.00%	.17%	.10%	.05%	.02%
Part-time Undergraduate	.36	1.00	.80	.71	.41	.18
Full-Time Graduate	--	1.00	1.01	.49	.19	.04
Part-Time Graduate	--	1.00	1.90	1.26	.62	.21
	All rates as a proportion of the PTUG 20-24 rate					
Full-Time Undergraduate	3.37	3.26	.55	.34	.15	.06
Part-Time Undergraduate	.36	1.00	.80	.71	.41	.18
Full-Time Graduate	--	.18	.18	.09	.03	.01
Part-Time Graduate	--	.29	.55	.37	.18	.06
	All rates as a proportion of the FTGR rates					
Full-Time Undergraduate		18.5	3.1	3.9	4.5	7.0
Part-Time Undergraduate		5.6	4.5	8.3	12.5	25.0
Full-Time Graduate		1.0	1.0	1.0	1.0	1.0
Part-Time Graduate		1.6	3.1	4.3	5.4	8.5

Source: NYSED: Postsecondary Information Systems. (GLR, 7/79)

FIGURE U

NEW YORK STATE
UNDERGRADUATES FROM OUT-OF-STATE*

Year	Out-of-State and Foreign First-Time Freshmen	All FTF	Percent	Out-of-State and Foreign Undergraduates	All New York State Undergraduates	Percent
1968				50,545	378,346	13.4%
1974	14,866	147,934	10.0%	55,274	507,907	10.9
1975	15,792	157,007	10.1	57,579	545,228	10.6
1976	16,012	150,481	10.6	58,361	532,615	11.0
1977	15,878	153,112	10.4	59,271	535,824	11.1

*Students unclassified as to region of origin are not included.

SOURCE: NYSED, Office of Postsecondary Research, Information Systems and Institutional Aid. Residence and Migration Forms (1974-1977). (GLR, 8/79)

FIGURE V

STUDENT FLOW CHARACTERISTICS
FOR FULL-TIME UNDERGRADUATES
NEW YORK STATE

	Weighted Average	Trend	Average Annual Fluctuation
LOWER DIVISION TRANSITION RATIO*			
Data from Years 1971-1976			
Mean	1.37	.15	.21
Standard Deviation	.63	.68	.18
Range	.15 to 3.93	-5.48 to 2.53	.00 to .93
No. of Institutions	213	175	175
UPPER DIVISION TRANSITION RATIO**			
Data from Years 1971-1976			
Mean	.61	.01	.09
Standard Deviation	.27	.34	.14
Range	.02 to 2.01	-2.71 to 1.7	.01 to .96
No. of Institutions	134	125	125

*Sophomore Enrollment as a proportion of the preceding years' freshmen.

**Upper division Enrollment as a proportion of a previous lower division enrollment.

SOURCE: Office of Postsecondary Research, Information Systems and Institutional Aid. (GLR/11-77).

FIGURE W

REGIONAL MIGRATION OF FULL-TIME, FIRST-TIME FRESHMEN (1972, 1974-76) IN PERCENTS

Student Origin: 1972	Institutional Location I	II	III	IV	V	VI	VII	VIII	NYS Total	Net Effect
I-Western	80.2	8.2	5.6	1.7	3.0	.6	.4	.2	12,883	110.8%
II-Genesee Valley	14.3	61.9	13.9	3.2	4.8	1.0	.5	.4	8,624	104.0%
III-Central	6.6	7.4	66.5	5.7	10.7	1.8	.8	.6	8,967	164.0%
IV-Northern	3.3	5.5	12.6	61.7	15.1	.8	.4	.6	2,053	160.6%
V-Northeast	3.6	4.2	12.8	5.0	70.9	2.2	.8	.6	10,854	117.5%
VI-Mid-Hudson	3.4	3.6	12.7	1.7	7.5	58.4	10.2	2.4	12,180	86.5%
VII-New York City	.9	.7	2.8	.2	1.8	3.5	86.6	3.6	44,748	94.4%
VIII-Long Island	3.6	2.5	10.3	.8	5.6	5.4	8.5	63.3	23,308	72.3%
New York State	14,277	8,969	14,708	3,298	12,758	10,538	42,225	16,844	123,616	

Student Origin: 1974	I	II	III	IV	V	VI	VII	VIII	NYS Total	Net Effect
I-Western	82.0	7.8	5.2	1.6	2.3	.5	.4	.3	13,413	114.5%
II-Genesee Valley	16.1	60.2	13.9	3.9	4.5	.6	.3	.4	9.177	107.5%
III-Central	6.5	7.8	65.0	7.6	10.6	1.5	.5	.5	9,189	178.3%
IV-Northern	2.5	5.3	15.1	61.9	14.2	.5	.1	.3	2,042	192.0%
V-Northeast	3.1	4.6	13.8	5.7	69.4	1.8	.8	.7	11,272	117.1%
VI-Mid-Hudson	3.4	4.2	15.1	2.4	8.3	54.1	9.7	2.8	13,237	75.3%
VII-New York City	1.1	1.0	3.7	.2	1.6	2.6	84.8	5.0	46,703	92.2%
VIII-Long Island	3.6	3.5	10.9	1.3	6.0	4.3	7.5	62.9	26,080	74.1%
New York State	15,353	9,871	16,381	3,921	13,205	9,973	43,072	19,337	131,113	

FIGURE W (continued)

Student Origin: 1975	I	II	III	IV	V	VI	VII	VIII	NYS Total*	Net Effect
I-Western	82.7	7.4	5.1	1.5	2.2	.4	.4	.2	14,793	114.2%
II-Genesee Valley	15.1	62.5	12.8	3.9	4.2	.7	.4	.4	10,215	111.3%
III-Central	6.6	7.7	67.9	5.9	9.6	1.3	.6	.4	10,772	164.3%
IV-Northern	3.5	6.3	13.4	58.5	17.3	.4	.3	.2	2,088	184.7%
V-Northeast	3.4	5.1	12.7	6.1	69.5	1.7	.9	.6	12,305	117.2%
VI-Mid-Hudson	3.3	4.6	12.7	1.9	7.7	57.3	9.4	3.3	16,185	78.2%
VII-New York City	1.0	1.1	2.9	.2	1.6	3.4	84.9	4.9	47,384	93.5%
VIII-Long Island	3.4	3.8	11.1	.9	6.3	4.7	8.3	61.5	27,276	72.7%
New York State	16,894	11,368	17,700	3,857	14,426	12,654	44,282	19,837	141,018	

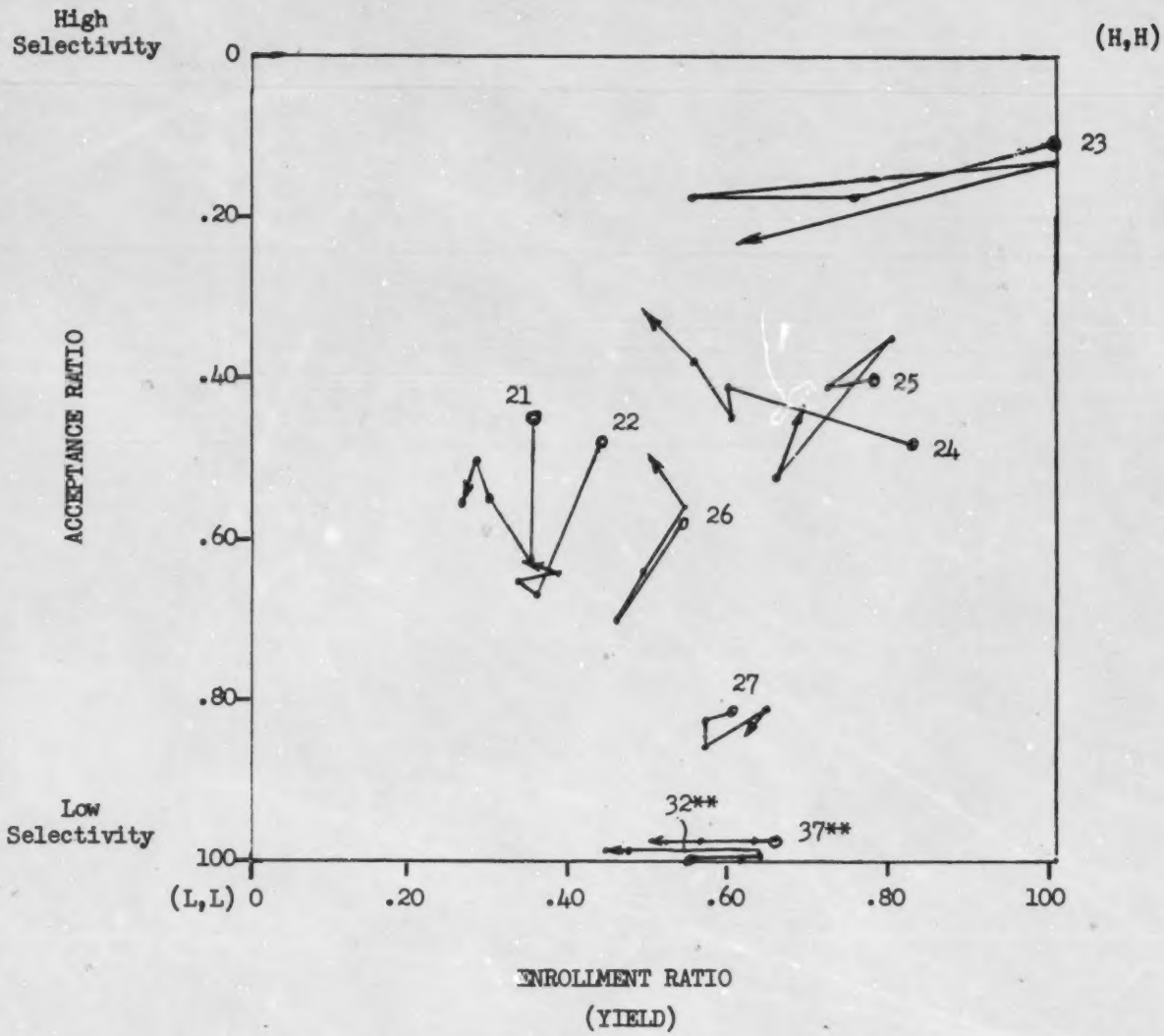
Student Origin: 1976	I	II	III	IV	V	VI	VII	VIII	NYS Total	Net Effect
I-Western	83.2	6.9	4.6	1.6	2.5	.5	.4	.3	14,226	119.2%
II-Genesee Valley	17.3	59.2	13.3	3.8	4.8	.7	.3	.6	9,527	105.3%
III-Central	7.3	8.0	66.7	5.7	9.8	1.2	.7	.7	10,110	161.6%
IV-Northern	6.6	5.7	12.0	59.1	15.0	.5	.9	.2	2,185	167.5%
V-Northeast	4.7	5.2	12.2	5.2	69.2	1.8	1.0	.6	12,120	114.8%
VI-Mid-Hudson	3.5	3.9	11.7	1.8	7.5	60.4	8.4	2.8	15,596	85.8%
VII-New York City	1.1	.9	3.2	.1	1.9	5.3	82.9	4.7	42,815	91.8%
VIII-Long Island	3.9	3.2	10.7	1.0	5.4	4.7	8.5	62.6	25,891	73.0%
New York State	16,958	10,036	16,339	3,660	13,913	13,380	39,286	18,898	132,470	

*Excluding Unknown New York State.

FIGURE X

ADMISSIONS TRENDS IN NEW YORK STATE
BY TYPE OF INSTITUTION*

(1972-1976)



o 1972
→ 1976

SUNY:
21 University Centers
22 University Colleges
23 Health Science Centers
24 Specialized Colleges
25 Statutory Colleges
26 Agricultural & Technical Colleges
27 Community Colleges

CUNY:
32 Senior Colleges
37 Community Colleges

*Simple Average of Institutional Ratios for First-Time Undergraduates.

**CUNY Institutions did not report separate acceptance and enrollment ratios due to the central admissions system.

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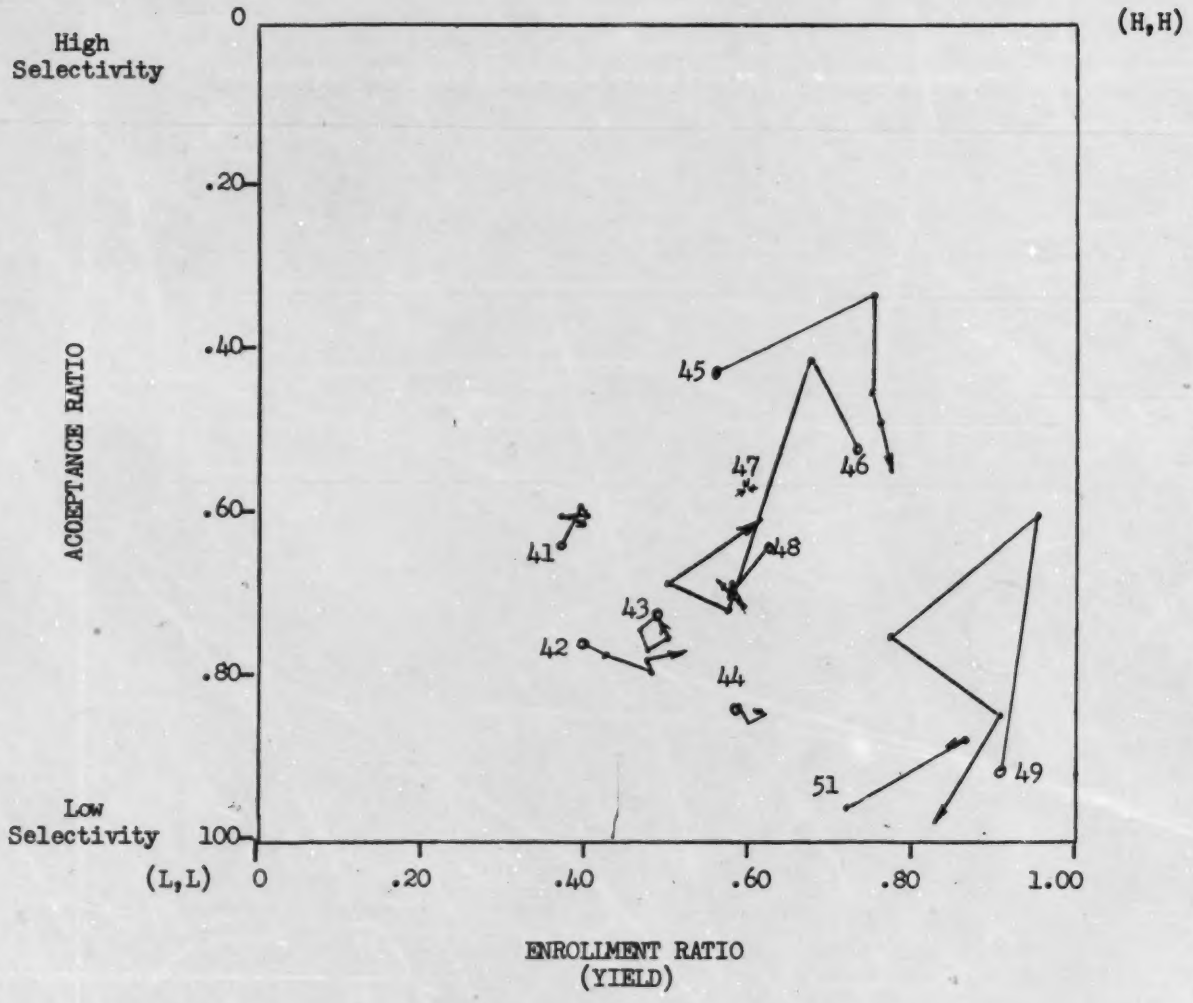
FIGURE X* (continued)



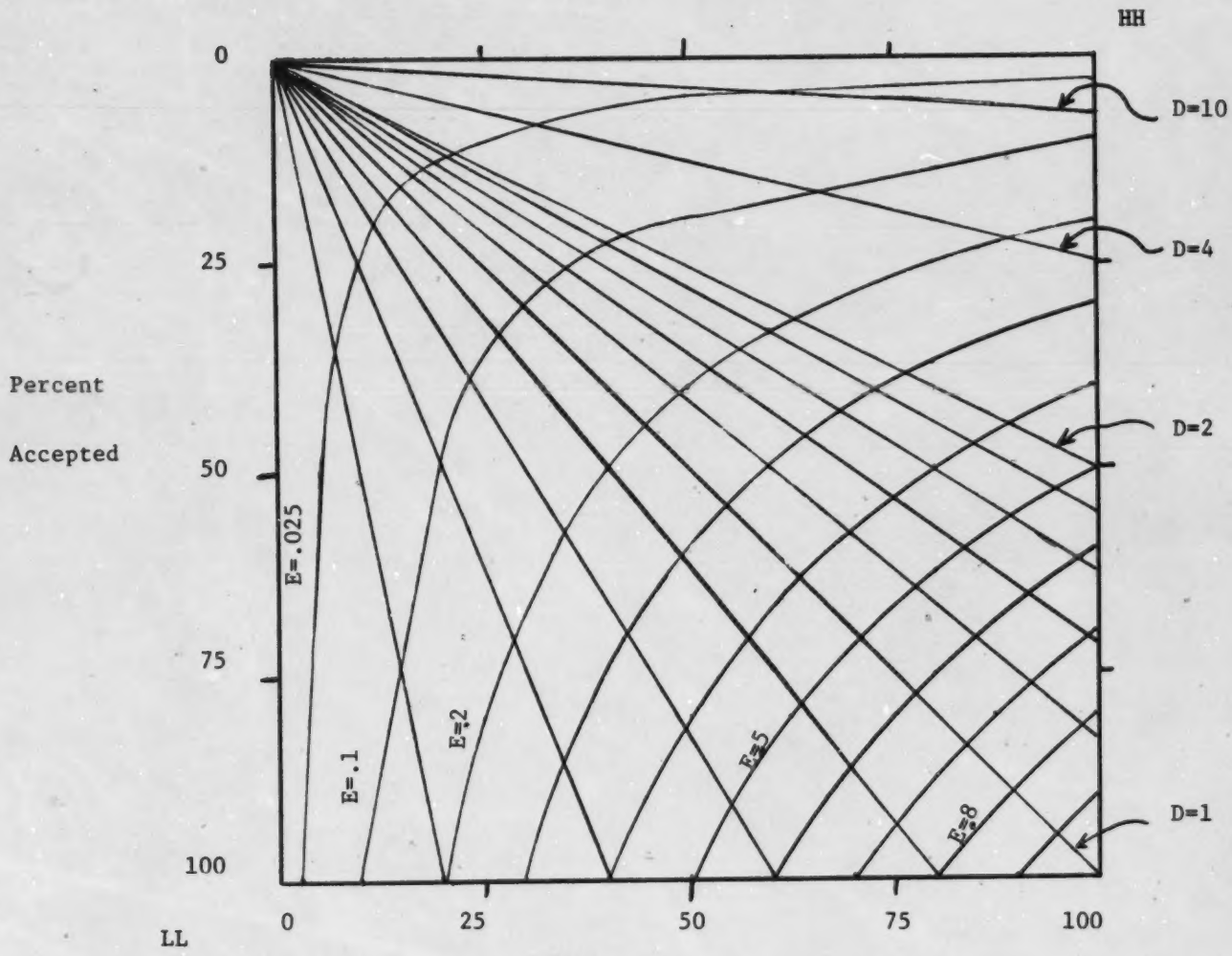
o 1972 — 1976

41	Multiversities	46	Health Science Centers
42	Universities	47	Nursing Schools
43	College Complexes	48	Engineering & Technical Schools
44	Colleges	49	Seminaries
45	Specialized Colleges	51	Proprietary

*Simple Average of Institutional Ratios for First-Time Undergraduates.

FIGURE Y

THE ADMISSIONS MATRIX*



*Constant values of % ACC * % ENR give lines of stable enrollment given stable numbers of applicants (isoens=E). These are the curves perpendicular to the lower right corner.

One possible measure of drawing power is % ENR + % ACC; the lines originating in the upper left corner then are lines of equal draw (isodraws=D).

APPENDIX B

SECTOR, LEVEL, TYPE

AND REGIONAL ENROLLMENT LEVELS AND PROJECTIONS

FOR

Full-Time Undergraduates
Part-Time Undergraduates
Full-Time Graduates
Part-Time Graduates
Full and Part-Time First Professionals

Historical: 1970-1978

TABLES INCLUDED IN APPENDIX B

1 Historical Full-Time, First-Time Enrollments - Sector, Level, Region

2 Historical Full-Time, First-Time Enrollments - Type

3 Historical Full-Time Undergraduate Enrollments - Sector, Level, Region

4 Historical Full-Time Undergraduate Enrollments - Type

5 Historical Part-Time Undergraduate Enrollments - Sector, Level, Region

6 Historical Part-Time Undergraduate Enrollments - Type

7 Historical Full-Time Graduate Enrollments - Sector, Region

8 Historical Full-Time Graduate Enrollments - Type

9 Historical Part-Time Graduate Enrollments - Sector, Region

10 Historical Part-Time Graduate Enrollments - Type

11 Historical Full-Time First-Professional Enrollments - Sector, Region

12 Historical Full-Time First-Professional Enrollments - Type

13 Historical Part-Time First-Professional Enrollments - Sector, Region

14 Historical Part-Time First Professional Enrollments - Type

15 Full-Time Undergraduate Community College Enrollment Projections - By Region, One Possible Future Assumptions

16 One Possible Future for New York State Enrollments - Headcount - 1978

17 One Possible Future for New York State Enrollments - Headcount - 1992

18 Enrollment Shares by Sector, Level and Region of Institution - Headcount - 1978

19 Enrollment Shares by Sector, Level and Region of Institution - Headcount - 1992

20 Full-Time Equivalent Enrollment Shares by Sector, Level and Region of Institution - Headcount - 1978

21 Full-Time Equivalent Enrollment Shares by Sector, Level and Region of Institution - Headcount 1992

22 One Posible Future for New York State Enrollments, Full-Time Equivalents - 1978

23 One Possible Future for New York State Enrollments, Full-Time Equivalents - 1992

24 Institutional Classification

25 Full-Time Undergraduate Simulation

26 Part-Time Undergraduate Simulation

27 Full-Time Graduate Simulation

28 Part-Time Graduate Simulation

TABLE 1
NEW YORK STATE
HISTORICAL FULL-TIME, FIRST-TIME ENROLLMENTS
BY SECTOR, LEVEL AND REGION
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
SECTOR									
State University	58,108	59,727	62,380	67,475	67,892	71,898	67,962	68,289	69,822
City University	35,810	31,367	33,394	31,177	33,951	30,673	24,853	29,278	28,579
Independent	45,891	44,291	44,619	42,781	46,566	48,753	51,970	50,096	51,328
Proprietary	-0-	-0-	-0-	4,297	4,374	6,400	6,977	8,004	7,462
LEVEL									
4-Year	82,599	76,542	80,194	78,296	83,761	86,366	82,186	83,875	86,544
2-Year	57,210	58,843	60,199	67,466	69,022	71,358	69,576	71,792	70,647
REGION									
Western	13,878	14,739	15,205	16,656	17,107	17,867	17,715	17,196	18,422
Genesee Valley	11,751	11,711	10,582	11,232	11,546	12,502	11,481	11,630	11,448
Central	18,964	18,093	19,157	21,022	20,983	21,864	21,469	21,204	21,395
Northern	4,583	4,181	3,880	4,033	4,683	4,570	4,309	4,209	4,457
Notheast	13,795	14,145	14,451	15,675	15,615	16,547	16,063	16,298	16,276
Mid-Hudson	11,564	10,951	12,836	12,738	12,475	14,903	16,604	16,497	16,802
New York City	50,440	45,333	46,325	46,031	50,296	48,558	44,306	49,176	47,757
Long Island	14,834	16,232	17,957	18,375	20,078	20,913	19,815	19,457	20,634
TOTAL	139,809	135,385	140,393	145,730	152,783	157,724	151,762	155,667	157,191

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 2
NEW YORK STATE
HISTORICAL FULL-TIME, FIRST-TIME ENROLLMENTS
BY TYPE
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
TYPE									
SUNY									
University Center	6,194	5,440	5,607	7,524	7,068	8,176	8,036	8,071	8,975
University College	10,693	10,672	10,986	12,517	13,681	13,678	12,125	12,526	12,997
Health Sciences Center	99	98	83	107	83	76	22	34	34
Specialized College	631	598	557	489	618	575	452	347	323
Statutory College	1,163	1,053	1,041	1,099	1,026	1,063	1,059	1,094	1,116
Agricultural and Technical	9,468	10,044	10,665	11,381	11,061	11,289	10,197	10,226	10,953
Community College	29,860	31,822	33,441	34,358	34,355	37,041	36,071	35,991	35,424
CUNY									
Senior College	21,134	17,156	19,828	16,755	17,758	16,993	9,260	12,209	12,168
Community College	14,676	14,211	13,566	14,422	16,193	13,680	15,593	17,069	16,411
INDEPENDENT									
Multiversity	7,941	7,423	7,445	7,292	8,616	7,698	8,371	7,903	8,453
University	7,790	8,030	7,877	6,914	6,872	7,337	8,291	7,779	8,202
College Complex	13,066	13,585	13,655	12,800	13,304	14,336	14,667	14,692	14,824
College	7,346	7,056	7,571	6,918	6,796	7,953	9,429	9,093	9,260
Specialized College	608	465	412	440	444	477	528	510	547
Agricultural and Technical	5,420	4,525	4,729	4,774	6,844	7,327	6,294	6,126	5,902
Seminary or Religious Training	306	227	200	133	145	141	148	102	72
Health Sciences	208	214	203	211	157	167	242	259	208
Nursing Schools	-0-	-0-	-0-	-0-	-0-	-0-	115	85	202
2-Year Schools	3,206	2,766	2,527	3,299	3,388	3,317	3,885	3,547	3,658
PROPRIETARY	-0-	-0-	-0-	4,297	4,374	6,400	6,977	8,004	7,462
TOTAL	139,809	135,385	140,393	145,730	152,783	157,724	151,762	155,667	157,191

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 3
NEW YORK STATE
HISTORICAL FULL-TIME UNDERGRADUATE ENROLLMENTS
BY SECTOR, LEVEL AND REGION
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
SECTOR									
State University	164,809	175,948	178,705	187,876	197,766	215,792	210,688	208,623	207,516
City University	96,655	113,856	122,025	125,893	131,158	132,043	117,789	120,238	112,930
Independent	178,262	177,340	172,469	169,944	177,164	189,996	195,871	198,666	202,789
Proprietary	-0-	-0-	-0-	7,908	8,499	11,543	13,799	15,163	15,108
LEVEL									
4-Year	326,871	342,680	343,503	348,567	364,014	383,257	380,252	378,493	377,964
2-Year	112,855	124,464	129,696	143,054	150,573	166,117	157,895	164,197	160,379
REGION									
Western	47,241	49,750	49,895	52,476	54,675	58,406	57,153	56,533	56,548
Genesee Valley	34,662	38,007	37,149	37,643	38,113	40,980	40,117	39,319	38,972
Central	62,619	64,924	65,385	68,881	70,940	74,639	74,393	74,282	74,375
Northern	12,495	12,963	12,598	12,328	13,003	13,909	13,837	13,724	13,375
Notheast	40,582	41,605	42,170	45,130	46,717	50,969	50,986	51,333	51,907
Mid-Hudson	32,862	33,456	36,088	38,301	39,899	45,657	48,510	49,554	50,588
New York City	161,714	175,736	179,722	185,939	191,693	196,442	189,090	195,268	190,776
Long Island	47,551	50,703	50,192	51,243	59,547	68,372	64,061	62,677	61,802
TOTAL	439,726	467,144	473,199	491,941	514,587	549,374	538,147	542,690	538,343

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 4
NEW YORK STATE
HISTORICAL FULL-TIME UNDERGRADUATE ENROLLMENTS
BY TYPE
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
TYPE									
SUNY									
University Center	32,282	32,591	32,009	33,863	35,733	38,622	38,178	37,492	38,024
University College	47,922	52,185	53,041	56,068	58,590	61,909	59,896	58,357	57,516
Health Sciences Center	1,168	1,515	1,726	2,066	2,181	2,451	2,407	2,203	2,121
Specialized College	2,088	2,127	2,207	2,242	2,965	3,527	3,558	3,551	3,392
Statutory College	4,493	4,703	4,882	5,033	5,024	5,125	5,196	5,183	5,328
Agricultural and Technical	16,621	17,788	18,278	19,588	20,716	21,097	20,137	20,105	20,371
Community College	60,235	65,039	66,562	69,016	72,557	83,061	81,316	81,732	80,764
CUNY									
Senior College	67,247	77,931	82,471	84,602	87,220	87,550	72,042	70,059	66,212
Community College	29,408	35,925	39,554	41,291	43,938	44,493	45,747	50,179	46,718
INDEPENDENT									
Multiversity	33,880	33,578	33,232	32,419	32,994	32,966	33,884	35,133	36,029
University	36,946	35,905	33,013	31,292	31,351	32,680	33,993	35,180	36,095
College Complex	49,198	49,956	50,078	48,797	48,919	50,608	52,230	53,569	55,220
College	26,957	27,307	27,801	27,273	26,772	29,097	32,821	34,014	35,364
Specialized College	2,652	2,575	2,401	2,384	2,484	2,595	3,043	2,875	3,262
Agricultural and Technical	19,948	20,226	18,651	18,758	26,010	32,138	28,628	26,331	25,500
Seminary or Religious Training	1,006	895	733	675	627	576	553	494	419
Health Sciences	1,084	1,186	1,258	1,640	1,618	1,721	1,801	1,859	1,696
Nursing Schools	-0-	-0-	-0-	-0-	-0-	-0-	561	617	751
2-Year Schools	6,591	5,712	5,302	6,706	6,389	7,615	8,357	8,594	8,453
PROPRIETARY	-0-	-0-	-0-	7,908	8,499	11,543	13,799	15,163	15,108
TOTAL	439,726	467,144	473,199	491,941	514,587	549,374	538,147	542,690	538,343

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 5
NEW YORK STATE
HISTORICAL PART-TIME UNDERGRADUATE ENROLLMENTS
BY SECTOR, LEVEL AND REGION
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
SECTOR									
State University	67,269	71,220	75,493	80,272	87,269	100,393	95,748	100,484	107,063
City University	61,393	66,140	74,543	83,534	89,810	91,791	64,062	53,735	50,579
Independent	39,994	37,280	45,381	52,113	54,025	59,327	61,833	64,786	65,211
Proprietary	-0-	-0-	-0-	3,466	3,698	4,575	6,488	6,335	6,570
LEVEL									
4-Year	84,650	82,497	96,520	113,184	120,510	129,312	125,057	123,601	124,529
2-Year	84,006	92,143	98,897	106,201	114,292	126,774	103,074	101,739	104,894
REGION									
Western	12,053	12,806	13,745	15,117	16,017	17,988	17,351	17,081	18,404
Genesee Valley	13,136	11,259	13,895	15,450	16,398	17,082	16,374	16,764	16,904
Central	9,891	10,634	10,945	12,088	12,979	15,302	13,282	14,288	15,577
Northern	868	982	981	1,068	1,346	1,310	1,284	1,566	1,450
Notheast	11,709	13,212	12,447	15,783	17,021	21,336	19,472	20,802	22,332
Mid-Hudson	13,837	13,749	17,706	20,587	23,528	26,091	25,220	26,502	28,709
New York City	81,802	85,756	98,380	110,103	117,537	121,218	97,212	90,108	87,240
Long Island	25,360	26,242	27,318	29,189	29,976	35,759	37,936	38,229	38,807
TOTAL	168,656	174,640	195,417	219,385	234,802	256,086	228,131	225,340	229,423

SOURCE: Postsecondary Research, Information Systems

TABLE 6
NEW YORK STATE
HISTORICAL PART-TIME UNDERGRADUATE ENROLLMENTS
BY TYPE
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
TYPE									
SUNY									
University Center	5,520	5,879	6,319	6,530	6,896	6,792	6,232	6,241	6,545
University College	5,440	4,886	5,708	7,365	8,563	9,494	9,149	9,329	10,091
Health Sciences Center	56	115	155	236	230	215	139	161	201
Specialized College	51	47	41	232	1,020	1,458	1,421	1,352	1,391
Statutory College	3	10	4	14	40	548	613	836	1,225
Agricultural and Technical	6,613	7,565	8,045	7,146	7,282	8,332	8,194	8,201	8,429
Community College	49,586	52,818	55,221	58,749	63,238	73,554	70,000	74,364	79,181
CUNY									
Senior College	34,938	35,351	40,152	46,502	49,382	50,954	35,048	29,714	29,826
Community College	26,455	30,789	34,391	37,032	40,428	40,837	29,014	24,021	20,753
INDEPENDENT									
Multiversity	6,606	6,158	6,828	5,971	6,562	7,425	5,964	6,500	6,488
University	8,859	8,017	8,393	8,125	8,755	9,666	9,968	11,111	11,248
College Complex	10,719	11,373	11,021	14,232	14,307	14,889	15,060	15,923	15,658
College	4,854	4,734	7,809	9,277	11,117	12,962	13,646	14,729	15,525
Specialized College	653	849	1,863	1,968	1,985	2,137	3,150	3,547	3,028
Agricultural and Technical	6,851	5,069	7,854	10,693	9,199	10,685	12,325	11,082	11,026
Seminary or Religious Training	99	95	260	308	419	238	104	145	121
Health Sciences	1	14	113	75	17	20	28	25	17
Nursing Schools	-0-	-0-	-0-	-0-	-0-	-0-	43	68	106
2-Year Schools	1,352	971	1,240	1,464	1,664	1,305	1,545	1,656	1,994
PROPRIETARY	-0-	-0-	-0-	3,466	3,698	4,575	6,488	6,335	6,570
TOTAL	168,656	174,640	195,417	219,385	234,802	256,086	228,131	225,340	229,423

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 7
NEW YORK STATE
HISTORICAL FULL-TIME GRADUATE ENROLLMENTS
BY SECTOR AND REGION
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
SECTOR									
State University	9,934	11,059	10,632	10,767	11,081	11,975	11,027	10,809	10,602
City University	3,376	4,000	4,855	4,842	5,613	4,515	4,201	4,242	4,606
Independent	27,489	27,597	27,283	28,214	28,385	30,185	30,340	30,562	30,417
REGION									
Western	3,632	3,764	3,564	3,501	3,443	4,030	3,644	3,567	3,554
Genesee Valley	1,995	2,289	2,232	2,183	2,315	2,516	2,567	2,368	2,349
Central	8,750	8,318	8,530	8,351	8,432	8,615	7,924	7,733	7,525
Northern	311	335	288	338	319	372	340	310	291
Notheast	2,476	2,903	2,810	2,863	2,774	3,126	3,043	3,214	3,307
Mid-Hudson	575	927	1,132	711	816	915	947	907	965
New York City	20,461	20,916	20,951	22,492	23,753	23,284	23,303	23,730	23,859
Long Island	2,599	3,204	3,263	3,384	3,227	3,817	3,800	3,764	3,685
TOTAL	40,799	42,656	42,770	43,823	45,079	46,675	45,568	45,613	45,535

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 8
NEW YORK STATE
HISTORICAL FULL-TIME GRADUATE ENROLLMENTS
BY TYPE
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
TYPE									
SUNY									
University Center	6,218	6,777	6,575	6,574	6,629	7,128	6,692	6,767	6,700
University College	1,703	2,092	1,758	1,843	2,009	2,160	1,727	1,473	1,266
Health Sciences Center	519	603	696	735	789	978	976	971	950
Specialized College	206	243	245	239	226	271	249	246	275
Statutory College	1,288	1,344	1,358	1,376	1,428	1,438	1,383	1,352	1,411
CUNY	3,376	4,000	4,855	4,842	5,613	4,515	4,201	4,242	4,606
INDEPENDENT									
Multiversity	17,438	16,207	15,580	16,538	16,787	17,315	17,452	17,459	17,125
University	3,638	3,953	4,072	4,417	3,993	4,419	4,899	4,979	4,882
College Complex	1,399	1,607	1,765	1,911	1,992	2,215	2,364	2,274	2,326
College	115	353	615	145	155	192	239	252	236
Specialized College	2,520	2,704	2,582	2,530	2,674	2,678	2,296	2,643	2,587
Agricultural and Technical	1,651	1,935	1,903	1,886	1,937	2,390	2,324	2,415	2,418
Seminary or Religious Training	414	489	471	467	533	623	387	366	392
Health Sciences	314	349	295	320	314	353	379	354	361
TOTAL	40,799	42,656	42,770	43,823	45,079	46,675	45,568	45,613	45,535

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 9
NEW YORK STATE
HISTORICAL PART-TIME GRADUATE ENROLLMENTS
BY SECTOR AND REGION
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
SECTOR									
State University	20,487	23,023	22,949	24,314	25,616	25,742	21,629	20,167	19,217
City University	23,277	24,127	25,256	27,244	26,375	22,425	14,302	11,355	11,182
Independent	55,317	58,305	64,732	67,110	72,212	75,441	69,756	70,078	68,738
REGION									
Western	7,271	7,888	7,604	8,089	8,238	8,520	7,564	7,174	6,680
Genesee Valley	4,715	5,300	5,967	7,120	7,514	7,381	5,974	5,785	5,546
Central	7,436	8,784	8,718	8,531	9,651	9,564	7,879	7,381	7,189
Northern	810	816	994	975	976	982	1,007	909	896
Notheast	6,428	6,348	7,823	7,463	7,648	7,756	6,648	6,985	6,921
Mid-Hudson	3,231	3,742	4,439	6,003	6,474	6,590	5,854	5,355	4,301
New York City	56,893	59,314	63,918	66,063	67,127	63,986	54,667	52,205	51,112
Long Island	12,297	13,263	13,474	14,424	16,575	18,829	16,094	15,806	15,440
TOTAL	99,081	105,455	112,937	118,668	124,203	123,608	105,687	101,600	98,085

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 10
NEW YORK STATE
HISTORICAL PART-TIME GRADUATE ENROLLMENTS
BY TYPE
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
TYPE									
SUNY									
University Center	8,771	9,485	9,019	9,423	10,020	10,602	9,614	9,438	9,348
University College	11,002	12,602	12,826	13,256	13,869	13,339	10,379	9,060	8,185
Health Sciences Center	97	209	300	532	478	625	599	694	679
Specialized College	610	723	801	1,089	1,239	1,169	1,021	928	970
Statutory College	7	4	3	14	10	7	16	47	35
CUNY	23,277	24,127	25,256	27,244	26,375	22,425	14,302	11,355	11,182
INDEPENDENT									
Multiversity	19,914	19,552	21,600	20,976	21,918	22,314	20,799	20,992	20,661
University	18,158	20,324	21,466	22,586	24,829	26,482	24,075	23,685	22,967
College Complex	8,029	9,914	11,902	11,415	11,948	12,164	11,499	11,846	10,655
College	1,238	928	1,401	2,503	3,062	3,493	3,328	3,291	3,002
Specialized College	3,687	4,051	4,382	4,403	4,872	5,198	4,736	4,393	4,316
Agricultural and Technical	4,004	3,261	3,531	4,548	4,837	4,976	4,644	5,003	4,980
Seminary or Religious Training	146	171	319	477	478	611	583	701	737
Health Sciences	141	104	131	202	268	203	92	167	368
TOTAL	99,081	105,455	112,937	118,668	124,203	123,608	105,687	101,600	98,085

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 11
NEW YORK STATE
HISTORICAL FULL-TIME FIRST-PROFESSIONAL ENROLLMENTS
BY SECTOR AND REGION
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
SECTOR									
State University	2,722	2,970	3,078	3,345	3,509	3,693	3,745	3,863	3,963
Independent	11,611	12,170	12,573	13,082	13,543	13,504	14,627	15,904	16,991
REGION									
Western	1,554	1,537	1,501	1,618	1,745	1,818	1,790	1,787	1,784
Genesee Valley	613	556	552	518	522	519	549	571	579
Central	1,997	2,045	2,107	1,695	1,793	1,873	1,933	1,941	2,058
Northern	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	
Notheast	800	972	1,083	1,116	1,143	1,215	1,259	1,265	1,256
Mid-Hudson	761	770	781	778	824	947	1,143	1,230	1,442
New York City	8,546	8,981	9,180	10,050	10,198	9,807	10,642	11,188	11,966
Long Island	112	279	447	652	827	1,018	1,057	1,785	1,869
TOTAL	14,383	15,140	15,651	16,427	17,052	17,197	18,373	19,767	20,954

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 12
NEW YORK STATE
HISTORICAL FULL-TIME FIRST-PROFESSIONAL ENROLLMENTS
BY TYPE
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
TYPE									
SUNY									
University Center	532	611	600	700	770	839	785	774	755
Health Sciences Center	1,995	2,095	2,186	2,330	2,392	2,474	2,529	2,605	2,680
Specialized College	-0-	22	45	65	85	106	149	185	220
Statutory College	245	242	247	250	262	274	283	299	308
INDEPENDENT									
Multiversity	5,682	5,732	5,738	5,406	5,609	5,520	5,588	5,535	5,845
University	1,660	1,981	2,265	2,472	2,515	2,613	3,062	3,419	3,765
College Complex	202	49	-0-	-0-	-0-	-0-	169	281	498
Specialized College	1,633	1,815	1,999	2,318	2,345	2,057	2,242	2,321	2,339
Agricultural and Technical	-0-	-0-	-0-	-0-	-0-	-0-	-0-	36	91
Seminary or Religious Training	1,244	1,346	1,188	1,024	1,068	1,085	1,185	1,201	1,150
Health Sciences	1,190	1,247	1,383	1,862	2,006	2,229	2,381	3,111	3,303
TOTAL	14,383	15,140	15,651	16,427	17,052	17,197	18,373	19,767	20,954

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 13
NEW YORK STATE
HISTORICAL PART-TIME FIRST-PROFESSIONAL ENROLLMENTS
BY SECTOR AND REGION
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
SECTOR									
State University	19	-0-	-0-	2	1	19	17	-0-	-0-
Independent	1,726	1,723	1,779	1,256	1,278	1,619	1,760	1,851	2,980
REGION									
Western	19	-0-	1	2	-0-	7	5	4	21
Genesee Valley	27	26	21	16	15	11	16	22	39
Central	-0-	14	10	1	4	3	12	9	89
Northern	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Notheast	-0-	-0-	-0-	-0-	-0	2	6	2	-0-
Mid-Hudson	3	-0-	19	11	1	7	118	196	1,255
New York City	1,696	1,683	1,706	1,228	1,259	1,608	1,619	1,618	1,576
Long Island	-0-	-0-	22	-0-	-0-	-0-	1	-0-	-0-
TOTAL	1,745	1,723	1,779	1,258	1,279	1,638	1,777	1,851	2,980

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 14
NEW YORK STATE
HISTORICAL PART-TIME FIRST-PROFESSIONAL ENROLLMENTS
BY TYPE
Final Fall 1970-78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
TYPE									
SUNY									
University Center	19	-0-	-0-	2	-0-	-0-	-0-	-0-	-0-
Specialized College	-0-	-0-	-0-	-0-	1	19	17	-0-	-0-
INDEPENDENT									
Multiversity	37	28	27	12	28	54	67	76	46
University	731	789	810	832	860	851	812	789	779
College Complex	-0-	-0-	-0-	-0-	-0-	-0-	118	196	1,327
Specialized College	922	871	873	365	359	658	662	716	724
Seminary or Religious Training	36	35	69	47	31	56	101	74	104
TOTAL	1,745	1,723	1,779	1,258	1,279	1,638	1,777	1,851	2,980

SOURCE: Postsecondary Research, Information Systems (GLR/11/79).

TABLE 15
FULL-TIME UNDERGRADUATE
COMMUNITY COLLEGE ENROLLMENT PROJECTIONS

By Region

One Possible Future Assumptions

Region	N	Preliminary 1978	Year 1980	1982	1984	1988	1992
Western SUNY	3	10,217	9,700	8,850	8,000	7,050	5,350
Genesee Valley SUNY	4	9,003	8,800	8,500	7,550	6,850	4,750
Central SUNY	4	8,403	7,700	7,300	6,300	5,600	3,750
Northeast	10	14,900	14,550	13,950	12,550	11,200	8,400
Mid-Hudson SUNY	6	15,853	17,250	16,850	15,400	13,600	10,300
New York City and Long Island							
SUNY	3	22,388	22,700	22,250	21,000	20,150	17,450
CUNY	9	46,736	43,450	43,100	42,000	36,950	27,900
TOTAL	38	127,500	123,150	120,800	112,800	101,400	77,900

SOURCE: NYSED: Postsecondary Information Systems (GLR 2> May 79).

TABLE 16
ONE POSSIBLE FUTURE FOR NEW YORK STATE ENROLLMENTS
HEADCOUNT
1978

	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Full-Time First-Professional	Part-Time First-Professional
Sector/Type						
State University	207,516	107,063	10,602	19,217	3,963	
4-Year[1]	106,381	19,453	10,602	19,217	3,963	
Agricultural and Technical	20,371	8,429				
Community College	80,764	79,181				
City University	112,664	50,660	4,605	11,171		
Senior Colleges	65,928	29,028	4,605	11,171		
Community Colleges	46,736	21,632				
Independent	201,766	64,504	29,979	67,502	16,963	1,981
Proprietary	15,168	6,701				
Level						
4-Year	377,047	123,939	45,186	97,890	20,926	1,981
2-Year	160,067	104,989				
Region						
Western	56,571	18,349	3,554	6,618	1,784	1
Genesee Valley	38,984	16,840	2,353	5,544	580	37
Central	74,370	15,571	7,596	7,277	2,001	8
Northern	13,371	1,454	288	899		
Northeast	51,939	22,341	3,329	6,833	1,256	3
Mid-Hudson	50,168	28,765	844	4,678	1,448	282
New York City	190,159	87,253	23,474	50,931	11,988	1,650
Long Island	61,552	38,355	3,748	15,110	1,869	
TOTAL	537,114	228,928	45,186	97,890	20,926	1,981

[1]Four-Year Community Colleges are included in the community college total (i.e., Fashion Institute of Technology).

SOURCE: NYSED: Postsecondary Information Systems (GLR/14 May 79).

TABLE 17
ONE POSSIBLE FUTURE FOR NEW YORK STATE ENROLLMENTS
HEADCOUNT
1992

	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Full-Time First-Professional	Part-Time First-Professional
Sector/Type						
State University	144,500	110,000	10,050	21,300	3,963	
4-Year[1]	79,700	18,800	10,050	21,300	3,963	
Agricultural and Technical	14,700	9,800				
Community College	50,100	81,400				
City University	77,100	43,700	3,650	10,100		
Senior Colleges	49,200	24,500	3,650	10,100		
Community Colleges	27,900	19,200				
Independent	142,300	60,900	26,400	65,000	16,963	1,981
Proprietary	13,600	5,500				
Level						
4-Year	273,600	111,800	40,100	96,400	20,926	1,981
2-Year	103,900	108,200				
Region						
Western	33,900	15,900	3,200	6,850	1,784	1
Genesee Valley	26,100	16,800	2,200	6,050	580	37
Central	55,500	14,700	7,350	8,000	2,001	8
Northern	10,000	1,730	300	900		
Northeast	38,900	22,900	2,950	7,300	1,256	3
Mid-Hudson	34,700	29,800	900	6,250	1,448	282
New York City	127,700	71,600	19,700	43,750	11,988	1,650
Long Island	50,800	46,500	3,450	17,200	1,869	
TOTAL	377,500	220,000	40,100	96,400	20,926	1,981

[1]Four-Year Community Colleges are included in the community college total (i.e., Fashion Institute of Technology).

SOURCE: NYSED: Postsecondary Information Systems (GLR/14 May 79).

TABLE 18
ENROLLMENT SHARES BY SECTOR, LEVEL AND REGION OF INSTITUTION
HEADCOUNT

1978 Preliminary

	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Full-Time First Professional	Part-Time First Professional	Total
Sector/Type							
State University	59.6%	30.7%	3.0%	5.5%	1.1%		99.9%
4-Year	66.6	12.2	6.6	12.0	2.5		99.9
Agricultural and Technical	70.7	29.3					100.0
Community College	50.5	49.5					100.0
City University	62.9	28.3	2.6	6.2			100.0
Senior Colleges	59.5	26.2	4.2	10.0			100.0
Community Colleges	68.4	31.6					100.0
Independent	52.7	16.9	7.8	17.6	4.4	0.5	99.9
Proprietary	69.4	30.6					
Level							
4-Year	56.5	18.6	6.8	14.7	3.1	0.3	100.0
2-Year	60.4	39.6					
Region							
Western	65.1	21.1	4.1	7.6	2.1		100.0
Genesee Valley	60.6	26.2	3.7	8.6	0.9	0.1	100.1
Central	69.6	14.6	7.1	6.8	1.9		100.0
Northern	83.5	9.1	1.8	5.6			100.0
Northeast	60.6	26.1	3.9	8.0	1.5		100.0
Mid-Hudson	58.2	33.4	1.0	5.4	1.7	0.3	100.0
New York City	52.0	23.9	6.4	13.9	3.3	0.5	100.0
Long Island	51.0	31.8	3.1	12.5	1.5		99.9
TOTAL	57.6%	24.6%	4.8%	10.5%	2.2%	0.2%	99.9%

SOURCE: NYSED: Postsecondary Information Systems (GLR 15 May 79).

TABLE 19
ENROLLMENT SHARES BY SECTOR, LEVEL AND REGION OF INSTITUTION
HEADCOUNT

ONE POSSIBLE FUTURE
1992

	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Full-Time First Professional	Part-Time First Professional	Total
Sector/Type							
State University	49.9%	38.0%	3.5%	7.3%	1.4%		100.1%
4-Year	59.6	14.0	7.5	15.9	3.0		100.0
Agricultural and Technical	60.0	40.0					100.0
Community College	38.1	61.9					
City University	57.3	32.5	2.7	7.5			100.0
Senior Colleges	56.3	28.0	4.1	11.5			99.0
Community Colleges	59.2	40.8					100.0
Independent	45.4	19.4	8.4	20.7	5.4	0.6	99.9
Proprietary	71.2	28.8					
Level							
4-Year	50.2	20.5	7.4	17.7	3.8	0.4	100.0
2-Year	49.0	51.0					
Region							
Western	55.0	25.8	5.2	11.1	2.9		100.0
Genesee Valley	50.4	32.5	4.2	11.7	1.1	0.1	100.0
Central	63.4	16.8	8.4	9.1	2.3		100.0
Northern	77.3	13.4	2.3	7.0			100.0
Northeast	53.1	31.2	4.0	10.0	1.7		100.0
Mid-Hudson	47.3	40.6	1.2	8.5	2.0	0.4	100.0
New York City	46.2	25.9	7.1	15.8	4.3	0.6	99.9
Long Island	42.4	38.8	2.9	14.4	1.6		100.1
TOTAL							

SOURCE: NYSED: Postsecondary Information Systems (GLR 15 May 79).

TABLE 20
FULL-TIME EQUIVALENT ENROLLMENT SHARES BY SECTOR, LEVEL AND REGION OF INSTITUTION
HEADCOUNT

Preliminary 1978

	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Full-Time First Professional	Part-Time First Professional	Total
Sector/Type							
State University	78.2%	13.4%	4.0%	2.9%	1.5%		100.0%
4-Year	78.7	4.8	7.8	5.7	2.9		99.9
Agricultural and Technical	87.9	12.1					100.0
Community College	75.4	24.6					100.0
City University	81.3	12.2	3.3	3.2			100.0
Senior Colleges	77.9	11.4	5.4	5.3			100.0
Community Colleges	86.6	13.4					
Independent	67.7	7.2	10.1	9.1	5.7	0.3	100.1
Proprietary	87.2	12.8					100.0
Level							
4-Year	71.9	7.9	8.6	7.5	4.0	0.2	100.1
2-Year	82.1	17.9					
Region							
Western	80.0	8.7	5.0	3.7	2.5		99.9
Genesee Valley	78.3	11.3	4.7	4.5	1.2		100.0
Central	80.8	5.6	8.3	3.2	2.2		100.2
Northern	92.2	3.3	2.0	2.5			100.0
Northeast	77.9	11.2	5.0	4.1	1.9		100.1
Mid-Hudson	78.3	15.0	1.3	2.9	2.3	0.2	100.0
New York City	69.0	10.5	8.5	7.4	4.3	0.2	99.9
Long Island	71.6	14.9	4.4	7.0	2.2		100.1
TOTAL	74.7%	10.6%	6.3%	5.4%	2.9%	0.1%	100.0%

SOURCE: NYSED: Postsecondary Information Systems (GLR 15 May 79).

TABLE 21
FULL-TIME EQUIVALENT ENROLLMENT SHARES BY SECTOR, LEVEL AND REGION OF INSTITUTION
HEADCOUNT

ONE POSSIBLE FUTURE
1992

	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Full-Time First Professional	Part-Time First Professional	Total
Sector/Type							
State University	70.9%	18.0%	4.9%	4.2%	1.9%		99.9%
4-Year	73.5	5.8	9.3	7.9	3.7		100.2
Agricultural and Technical	81.8	18.2					100.0
Community College	64.9	35.1					100.0
City University	77.6	14.7	3.7	4.1			100.0
Senior Colleges	75.6	12.6	5.6	6.2			100.0
Community Colleges	81.3	18.7					
Independent	61.1	8.7	11.3	11.2	7.3	0.3	99.9
Proprietary	88.1	11.9					
Level							
4-Year	66.5	9.1	9.8	9.4	5.1	0.2	100.1
2-Year	74.2	25.8					
Region							
Western	72.2	11.3	6.8	5.8	3.8		99.9
Genesee Valley	70.7	15.2	6.0	6.6	1.6		100.1
Central	76.1	6.7	10.1	4.4	2.7		100.0
Northern	89.0	5.1	2.7	3.2			100.0
Northeast	72.5	14.2	5.5	5.4	2.3		99.9
Mid-Hudson	70.0	20.0	1.8	5.0	2.9	0.2	99.9
New York City	63.4	11.8	9.8	8.7	6.0	0.3	100.0
Long Island	64.7	19.7	4.4	8.8	2.4		100.0
TOTAL	68.5%	13.3%	7.3%	7.0%	3.8%	0.1%	100.0%

SOURCE: NYSED: Postsecondary Information Systems (GLR 15 May 79).

TABLE 22
ONE POSSIBLE FUTURE FOR NEW YORK STATE ENROLLMENTS
FULL-TIME EQUIVALENTS
1978

	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Full-Time First Professional	Part-Time First Professional	Total
Sector/Type							
State University	207,516	35,688	10,602	7,687	3,963		265,450
4-Year	106,381	6,484	10,602	7,687	3,963		135,117
Agricultural and Technical	20,371	2,810					23,181
Community College	80,764	26,394					107,158
City University	112,664	16,887	4,605	4,468			138,624
Senior Colleges	65,928	9,676	4,605	4,468			84,677
Community Colleges	46,736	7,211					53,947
Independent	201,766	21,501	29,979	27,001	16,963	792	298,002
Proprietary	15,168	2,234					17,402
Level							
4-Year	377,047	41,313	45,186	39,156	20,926	792	524,420
2-Year	160,067	34,997					195,064
Region							
Western	56,571	6,116	3,554	2,647	1,784		70,672
Genesee Valley	38,984	5,613	2,353	2,218	580	15	49,763
Central	74,370	5,190	7,596	2,911	2,001	3	92,071
Northern	13,371	485	288	360			14,504
Northeast	51,939	7,447	3,329	2,733	1,256	1	66,705
Mid-Hudson	50,168	9,588	844	1,871	1,448	113	64,032
New York City	190,159	29,086	23,474	20,732	11,988	660	275,739
Long Island	61,552	12,785	3,748	6,044	1,869		85,998
TOTAL	537,114	76,310	45,186	39,156	20,926	792	719,484

[1]Four-Year Community Colleges are included in the community college total (i.e., Fashion Institute of Technology).

SOURCE: NYSED: Postsecondary Information Systems (GLR 15 May 79).

TABLE 23
ONE POSSIBLE FUTURE FOR NEW YORK STATE ENROLLMENTS
FULL-TIME EQUIVALENTS
1992

	Full-Time Undergraduate	Part-Time Undergraduate	Full-Time Graduate	Part-Time Graduate	Full-Time First Professional	Part-Time First Professional	Total
Sector/Type							
State University	144,500	36,667	10,050	8,520	3,963		203,700
4-Year	79,700	6,267	10,050	8,520	3,963		108,500
Agricultural and Technical	14,700	3,267					17,967
Community College	50,100	27,133					77,233
City University	77,100	14,567	3,650	4,040			99,357
Senior Colleges	49,200	8,167	3,650	4,040			65,057
Community Colleges	27,900	6,400					34,300
Independent	142,300	20,300	26,400	26,000	16,963	792	232,755
Proprietary	13,600	1,833					15,433
Level							
4-Year	273,600	37,267	40,100	38,560	20,926	792	411,245
2-Year	103,900	36,067					139,967
Region							
Western	33,900	5,300	3,200	2,740	1,784		46,924
Genesee Valley	26,100	5,600	2,200	2,420	580	15	36,915
Central	55,500	4,900	7,350	3,200	2,001	3	72,954
Northern	10,000	577	300	360			11,237
Northeast	38,900	7,633	2,950	2,920	1,256	1	53,660
Mid-Hudson	34,700	9,933	900	2,500	1,448	113	49,594
New York City	127,700	23,867	19,700	17,500	11,988	660	201,415
Long Island	50,800	15,500	3,450	6,880	1,869		78,499
TOTAL	377,500	73,334	40,100	38,560	20,926	792	551,212

[1]Four-Year Community Colleges are included in the community college total (i.e., Fashion Institute of Technology).

SOURCE: NYSED: Postsecondary Information Systems (GLR 15 May 79).

TABLE 24
INSTITUTIONAL CLASSIFICATION

SECTOR

2 State University
3 City University
4 Independent
5 Proprietary

LEVEL

1 Four-Year
2 2-Year

TYPE

State University
20 Central Administration and Universitywide Programs
21 University Center
22 University College
23 Health Sciences Center
24 Specialized College
25 Statutory College
26 Agricultural and Technical College
27 Community College

City University
31 Graduate School and University
32 Senior College
37 Community College

Independent
40 Multiversity
41 University
42 College Complex
43 College
44 Specialized College
45 Engineering or Technical School
46 Seminary or Religious Training School
47 Health Sciences Center

Proprietary
48 Nursing School
48 2-Year School
51 Proprietary

REGENTS REGION

1 Western
2 Genesee Valley
3 Central
4 Northern
5 Northeast
6 Mid-Hudson
7 New York City
8 Long Island

TABLE 25
FULL-TIME UNDERGRADUATE SIMULATION
ONE POSSIBLE FUTURE SIMULATION

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
SECTOR 1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SECTOR 2	210897.	208542.	207632.	209426.	211032.	208116.	204966.	199378.	191123.	183616.
SECTOR 3	118789.	120238.	112207.	111066.	110090.	111188.	110264.	108610.	105655.	101697.
SECTOR 4	189966.	198618.	200967.	202844.	199025.	197337.	194774.	190231.	183891.	176910.
SECTOR 5	13799.	15164.	15073.	15491.	15388.	15349.	15300.	15135.	14867.	14662.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
SECTOR 1	0.	0.	0.	0.	0.	0.	0.	0.	0.
SECTOR 2	177731.	174625.	173952.	169691.	160170.	150821.	144469.	140738.	138245.
SECTOR 3	97389.	93148.	91266.	89246.	84491.	80068.	77087.	75427.	74432.
SECTOR 4	170390.	165914.	164043.	161000.	155174.	148611.	142320.	138290.	136306.
SECTOR 5	14527.	14504.	14579.	14418.	14051.	13756.	13646.	13628.	13629.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
LEVEL 1	375987.	378436.	377920.	380502.	378458.	376922.	372375.	364343.	352715.	339184.
LEVEL 2	157464.	164126.	157959.	158316.	157076.	155068.	152930.	149011.	142821.	137601.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
LEVEL 1	326445.	317324.	313401.	308207.	297634.	285325.	273612.	266283.	262677.
LEVEL 2	133591.	130867.	130440.	126148.	116251.	107931.	103910.	101901.	99936.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TYPE 20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 21	38178.	37492.	39331.	38475.	39869.	38436.	37769.	36800.	35516.	34083.
TYPE 22	60117.	58357.	57205.	58127.	58987.	59097.	58397.	57114.	55262.	53340.
TYPE 23	2407.	2203.	2184.	2274.	2310.	2339.	2362.	2373.	2381.	2397.
TYPE 24	3546.	3470.	3194.	3173.	3204.	3299.	3306.	3289.	3257.	3222.
TYPE 25	5196.	5183.	5327.	5332.	5476.	5450.	5429.	5366.	5269.	5154.
TYPE 26	20137.	20105.	20067.	20534.	20466.	20265.	19980.	19428.	18642.	17995.
TYPE 27	81316.	81732.	80324.	81511.	80720.	79229.	77723.	75009.	70795.	67424.
TYPE 28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 32	73042.	70059.	65737.	67326.	66654.	67888.	67158.	65854.	63647.	60598.
TYPE 33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 36	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 37	45747.	50179.	46470.	43740.	43436.	43300.	43106.	42756.	42009.	41109.
TYPE 38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 39	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 40	33899.	35065.	35726.	35981.	35589.	34917.	34544.	33853.	32903.	31934.
TYPE 41	33993.	35179.	34567.	34662.	33628.	33374.	32963.	32291.	31224.	29912.
TYPE 42	52230.	53665.	54809.	54751.	54235.	53434.	52580.	51095.	49207.	47134.
TYPE 43	31980.	34099.	35647.	36218.	35087.	34533.	34053.	33156.	31904.	30484.
TYPE 44	3043.	2876.	2914.	2712.	2710.	2702.	2681.	2639.	2580.	2515.
TYPE 45	24105.	26331.	26274.	27425.	26901.	27738.	27498.	27033.	26354.	25626.
TYPE 46	443.	405.	408.	368.	399.	398.	392.	382.	369.	352.
TYPE 47	1786.	1859.	1935.	1994.	1864.	1808.	1792.	1755.	1698.	1625.
TYPE 48	561.	613.	590.	614.	615.	614.	611.	606.	594.	590.
TYPE 49	7926.	8526.	9097.	8096.	7997.	7820.	7661.	7421.	7059.	6749.
TYPE 50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 51	13799.	15164.	15073.	15491.	15388.	15349.	15300.	15135.	14867.	14662.

TABLE 25 (continued)

	1986	1987	1988	1989	1990	1991	1992	1993	1994
TYPE 20	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 21	32696.	31733.	31260.	30648.	29432.	27908.	24389.	25413.	24902.
TYPE 22	51546.	50434.	50103.	49379.	47613.	45386.	43267.	41913.	41198.
TYPE 23	2411.	2409.	2410.	2411.	2405.	2394.	2387.	2384.	2393.
TYPE 24	3190.	3163.	3160.	3154.	3123.	3072.	3014.	2980.	2972.
TYPE 25	5053.	4994.	4988.	4970.	4898.	4776.	4642.	4562.	4544.
TYPE 26	17616.	17520.	17570.	17063.	15976.	15079.	14706.	14539.	14394.
TYPE 27	65218.	64372.	64462.	62067.	56723.	52206.	50063.	48947.	47851.
TYPE 28	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 29	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 30	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 31	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 32	57613.	55421.	54341.	53590.	52183.	50626.	49204.	49450.	48145.
TYPE 33	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 34	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 35	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 36	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 37	39776.	37727.	36925.	35656.	32308.	29441.	27883.	26977.	26289.
TYPE 38	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 39	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 40	30862.	30168.	29900.	29542.	28813.	27941.	27023.	26470.	26290.
TYPE 41	28719.	27851.	27454.	26910.	25791.	24602.	23499.	22833.	22504.
TYPE 42	45199.	43923.	43382.	42436.	40745.	38921.	36975.	35790.	35241.
TYPE 43	29138.	28180.	27716.	27034.	25857.	24451.	23081.	22140.	21671.
TYPE 44	2465.	2431.	2427.	2421.	2365.	2317.	2285.	2269.	2267.
TYPE 45	25016.	24570.	24427.	24135.	23559.	22864.	22131.	21616.	21294.
TYPE 46	337.	325.	318.	310.	297.	283.	270.	261.	256.
TYPE 47	1541.	1460.	1402.	1356.	1304.	1230.	1130.	1055.	1017.
TYPE 48	567.	559.	561.	557.	536.	516.	507.	507.	507.
TYPE 49	6547.	6448.	6457.	6300.	5908.	5596.	5419.	5329.	5255.
TYPE 50	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 51	14527.	14504.	14579.	14418.	14051.	13756.	13646.	13628.	13629.
TYPE 52	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 53	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 54	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 55	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
REGION 1	57153.	56533.	55735.	56540.	55537.	53909.	52317.	50270.	47841.	45660.
REGION 2	40116.	39314.	38792.	38750.	38251.	37938.	37420.	36392.	34777.	33373.
REGION 3	74408.	74218.	73822.	74049.	74084.	73500.	72765.	70992.	68529.	66226.
REGION 4	13837.	13725.	13507.	13591.	13503.	13433.	13277.	12977.	12497.	12021.
REGION 5	51195.	51256.	51454.	51644.	52304.	52101.	51530.	50324.	48592.	46955.
REGION 6	47609.	49552.	49886.	52180.	51622.	51045.	50651.	49462.	47401.	45349.
REGION 7	189595.	195287.	188832.	186644.	184221.	183833.	182093.	178989.	173782.	167074.
REGION 8	59538.	62677.	63852.	65421.	66013.	66132.	65253.	63949.	62093.	60128.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
REGION 1	43631.	42426.	41984.	40796.	38516.	36008.	33881.	32576.	31727.
REGION 2	32278.	31632.	31552.	30901.	29195.	27398.	25067.	25294.	24854.
REGION 3	64420.	63437.	63362.	62488.	60055.	57429.	55463.	51346.	53941.
REGION 4	11655.	11494.	11523.	11414.	10994.	10472.	10039.	9814.	9704.
REGION 5	45543.	44796.	44752.	44088.	42373.	40448.	38859.	37996.	37385.
REGION 6	43545.	42479.	42057.	40665.	38246.	36131.	34703.	33742.	33175.
REGION 7	160133.	153700.	150655.	147198.	139958.	133017.	127730.	124536.	122841.
REGION 8	58831.	58227.	57954.	56816.	54549.	52354.	50780.	49791.	48984.

TABLE 26
PART-TIME UNDERGRADUATE SIMULATION
ONE POSSIBLE FUTURE SIMULATION

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
SECTOR 1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SECTOR 2	96035.	101087.	104594.	107166.	108474.	108515.	108634.	111622.	112492.	114960.
SECTOR 3	64216.	54057.	51184.	53125.	52282.	51056.	49876.	49939.	49119.	49491.
SECTOR 4	61549.	63538.	64554.	63038.	63256.	62837.	62466.	63735.	63775.	64977.
SECTOR 5	6329.	6604.	6691.	6215.	6185.	6090.	6000.	6067.	6015.	6091.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
SECTOR 1	0.	0.	0.	0.	0.	0.	0.	0.	0.
SECTOR 2	114171.	113589.	113112.	112740.	112471.	111153.	109951.	108862.	107894.
SECTOR 3	48550.	47649.	46777.	45934.	45118.	44420.	43742.	43085.	42449.
SECTOR 4	64270.	63717.	63217.	62769.	62372.	61585.	60853.	60174.	59547.
SECTOR 5	5996.	5906.	5820.	5739.	5661.	5568.	5479.	5393.	5312.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
LEVEL 1	124692.	122871.	122465.	121080.	120841.	119460.	118171.	119972.	119449.	121205.
LEVEL 2	103437.	102416.	106558.	108465.	109355.	109039.	108806.	111440.	111944.	114104.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
LEVEL 1	119748.	118384.	117110.	115926.	114830.	113271.	111901.	110417.	109116.
LEVEL 2	113239.	112477.	111816.	111255.	110793.	109454.	108223.	107097.	106074.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TYPE 20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 21	6251.	6278.	6804.	6790.	6848.	6914.	6785.	6934.	6949.	7078.
TYPE 22	9176.	9385.	9939.	9871.	9958.	9933.	9914.	10154.	10200.	10412.
TYPE 23	139.	162.	178.	176.	177.	175.	174.	177.	177.	179.
TYPE 24	1425.	1360.	1470.	1470.	1482.	1480.	1479.	1516.	1524.	1563.
TYPE 25	615.	841.	732.	712.	713.	708.	703.	718.	715.	727.
TYPE 26	8219.	8250.	8429.	9105.	9301.	9366.	9441.	9772.	9922.	10117.
TYPE 27	70210.	74810.	79052.	79043.	79995.	80039.	80139.	82353.	82995.	84784.
TYPE 28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 31	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 32	35115.	29892.	29070.	29758.	29294.	28616.	27963.	28035.	27556.	27763.
TYPE 33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 36	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 37	29101.	24165.	22114.	23368.	22987.	22440.	21913.	21955.	21561.	21718.
TYPE 38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 39	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 40	5893.	6497.	6715.	6551.	6557.	6500.	6443.	6563.	6551.	6658.
TYPE 41	9812.	10488.	10866.	10516.	10578.	10521.	10475.	10707.	10737.	10995.
TYPE 42	15213.	15921.	15658.	15244.	15251.	15117.	14992.	15259.	15229.	15501.
TYPE 43	13099.	14117.	14051.	13912.	13880.	13914.	13757.	14042.	14095.	14368.
TYPE 44	3196.	3413.	3319.	3129.	3111.	3064.	3021.	3056.	3032.	3069.
TYPE 45	12360.	11182.	11968.	11837.	11923.	11881.	11847.	12125.	12171.	12389.
TYPE 46	123.	128.	133.	128.	128.	127.	125.	127.	127.	129.
TYPE 47	27.	25.	24.	22.	21.	21.	21.	21.	20.	21.
TYPE 48	44.	75.	69.	67.	67.	66.	66.	67.	67.	68.
TYPE 49	1782.	1692.	1750.	1733.	1739.	1726.	1714.	1748.	1747.	1770.
TYPE 50	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 51	6329.	6604.	6691.	6215.	6185.	6090.	6000.	6067.	6015.	6091.

TABLE 26 (continued)

	1986	1987	1988	1989	1990	1991	1992	1993	1994
TYPE 20	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 21	7002.	6934.	6871.	6814.	6764.	6718.	6559.	6456.	6340.
TYPE 22	10334.	10265.	10205.	10152.	10109.	9990.	9861.	9752.	9651.
TYPE 23	177.	175.	173.	171.	169.	166.	163.	160.	157.
TYPE 24	1557.	1552.	1549.	1545.	1543.	1530.	1517.	1505.	1495.
TYPE 25	720.	713.	707.	701.	696.	686.	677.	669.	661.
TYPE 26	10068.	10033.	10012.	10005.	10011.	9990.	9795.	9693.	9614.
TYPE 27	84312.	83916.	83596.	83351.	83181.	82243.	81389.	80616.	79923.
TYPE 28	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 29	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 30	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 31	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 32	27245.	26744.	26260.	25792.	25340.	24949.	24570.	24203.	23848.
TYPE 33	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 34	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 35	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 36	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 37	21305.	20905.	20517.	20142.	19778.	19471.	19172.	18891.	18600.
TYPE 38	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 39	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 40	6594.	6534.	6479.	6427.	6380.	6299.	6223.	6150.	6082.
TYPE 41	10785.	10698.	10602.	10527.	10464.	10326.	10199.	10083.	9979.
TYPE 42	15350.	15210.	15081.	14962.	14853.	14674.	14506.	14348.	14200.
TYPE 43	14261.	14165.	14080.	14007.	13945.	13793.	13652.	13523.	13405.
TYPE 44	3027.	2987.	2949.	2913.	2879.	2840.	2802.	2766.	2733.
TYPE 45	12276.	12175.	12085.	12006.	11938.	11767.	11609.	11463.	11329.
TYPE 46	127.	126.	125.	123.	122.	121.	119.	118.	116.
TYPE 47	20.	20.	20.	19.	19.	19.	18.	18.	18.
TYPE 48	68.	67.	67.	67.	66.	66.	65.	64.	64.
TYPE 49	1762.	1746.	1731.	1717.	1704.	1681.	1660.	1640.	1621.
TYPE 50	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 51	5996.	5906.	5820.	5739.	5661.	5568.	5479.	5393.	5312.
TYPE 52	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 53	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 54	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 55	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
REGION 1	17400.	17170.	17822.	17868.	17934.	17727.	17531.	17793.	17709.	17969.
REGION 2	16381.	16848.	17185.	17295.	17399.	17340.	17234.	17491.	17729.	18104.
REGION 3	13451.	14332.	14475.	14552.	14672.	14642.	14619.	14973.	15037.	15337.
REGION 4	1288.	1573.	1577.	1600.	1618.	1621.	1626.	1674.	1691.	1753.
REGION 5	19522.	20920.	21933.	22003.	22165.	22136.	22117.	22675.	22792.	23452.
REGION 6	25494.	26690.	27568.	27734.	28098.	28199.	28314.	29172.	29469.	30180.
REGION 7	96884.	89643.	85691.	85070.	83935.	82153.	80444.	80826.	79624.	80306.
REGION 8	37709.	38119.	42772.	43432.	44375.	44681.	45040.	46618.	47342.	48208.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
REGION 1	17662.	17371.	17096.	16836.	16592.	16232.	15890.	15564.	15253.
REGION 2	17941.	17789.	17648.	17518.	17399.	17115.	16846.	16592.	16352.
REGION 3	15262.	15196.	15138.	15088.	15046.	14985.	14733.	14590.	14455.
REGION 4	1751.	1750.	1751.	1752.	1755.	1745.	1736.	1729.	1722.
REGION 5	23382.	23324.	23279.	23245.	23223.	23055.	22902.	22762.	22634.
REGION 6	30136.	30117.	30122.	30151.	30205.	29991.	29805.	29644.	29510.
REGION 7	78899.	77544.	76243.	74996.	73780.	72470.	71599.	70567.	69573.
REGION 8	47954.	47770.	47653.	47604.	47623.	47032.	46514.	46067.	45692.

TABLE 27
FULL-TIME GRADUATE SIMULATION
ONE POSSIBLE FUTURE SIMULATION

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
SECTOR 1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SECTOR 2	11579.	11068.	10624.	10991.	11115.	11072.	11033.	11056.	11085.	11302.
SECTOR 3	4641.	4314.	4581.	4440.	4400.	4319.	4241.	4188.	4137.	4193.
SECTOR 4	31546.	30185.	29990.	29909.	29990.	29708.	29443.	29345.	29263.	29738.
SECTOR 5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
SECTOR 1	0.	0.	0.	0.	0.	0.	0.	0.	0.
SECTOR 2	11139.	10985.	10839.	10700.	10569.	10299.	10040.	9793.	9556.
SECTOR 3	4105.	4030.	3957.	3887.	3819.	3738.	3658.	3582	3507.
SECTOR 4	29283.	28848.	28433.	28036.	27658.	27013.	26395.	25800.	25229.
SECTOR 5	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
LEVEL 1	47767.	45568.	45195.	45339.	45506.	45099.	44719.	44589.	44485.	45222.
LEVEL 2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
LEVEL 1	44527.	43863.	43228.	42623.	42046.	41050.	40093.	39174.	38292.
LEVEL 2	0.	0.	0.	0	0.	0.	0.	0.	0.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TYPE 20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 21	7027.	6929.	6525.	6748.	6826.	6799.	6774.	6787.	6804.	6936.
TYPE 22	1813.	1508.	1644.	1700.	1723.	1720.	1718.	1725.	1732.	1771.
TYPE 23	1025.	994.	924.	956.	967.	962.	957.	958.	960.	976.
TYPE 24	263.	252.	238.	247.	249.	248.	247.	247.	248.	253.
TYPE 25	1452.	1384.	1292.	1339.	1351.	1344.	1339.	1339.	1341.	1366.
TYPE 26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 31	2231.	2252.	2227.	2159.	2143.	2105.	2069.	2045.	2023.	2046.
TYPE 32	2410.	2062.	2354.	2280.	2258.	2214.	2172.	2143.	2115.	2137.
TYPE 33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 36	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 39	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 40	18205.	17692.	17499.	17438.	17471.	17297.	17132.	17065.	17004.	17279.
TYPE 41	4989.	4221.	4241.	4248.	4271.	4238.	4207.	4201.	4197.	4242.
TYPE 42	2520.	2422.	2409.	2401.	2410.	2390.	2372.	2367.	2363.	2405.
TYPE 43	287.	259.	262.	262.	266.	266.	266.	268.	270.	276.
TYPE 44	2412.	2500.	2492.	2484.	2484.	2455.	2429.	2415.	2401.	2439.
TYPE 45	2436.	2441.	2408.	2378.	2407.	2387.	2367.	2361.	2354.	2397.
TYPE 46	301.	295.	315.	314.	315.	313.	310.	310.	309.	314.
TYPE 47	397.	356.	364.	363.	365.	363.	360.	360.	359.	366.
TYPE 48	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TABLE 27 (continued)

	1986	1987	1988	1989	1990	1991	1992	1993	1994
TYPE 20	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 21	6835.	6738.	6646.	6560.	6477.	6310.	6150.	5997.	5851.
TYPE 22	1749.	1727.	1706.	1687.	1669.	1627.	1587.	1549.	1513.
TYPE 23	960.	945.	930.	917.	904.	879.	855.	832.	810.
TYPE 24	249.	246.	243.	240.	238.	232.	227.	221.	216.
TYPE 25	1347.	1330.	1313.	1297.	1281.	1251.	1221.	1193.	1166.
TYPE 26	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 27	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 28	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 29	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 30	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 31	2009.	1973.	1939.	1904.	1872.	1832.	1792.	1755.	1718.
TYPE 32	2096.	2057.	2019.	1983.	1947.	1906.	1866.	1827.	1789.
TYPE 33	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 34	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 35	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 36	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 37	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 38	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 39	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 40	17013.	16759.	16515.	16282.	16059.	15689.	15333.	14991.	14661.
TYPE 41	4195.	4131.	4070.	4013.	3959.	3860.	3766.	3676.	3590.
TYPE 42	2370.	2337.	2306.	2276.	2247.	2196.	2146.	2099.	2053.
TYPE 43	273.	270.	268.	265.	263.	257.	251.	246.	240.
TYPE 44	2400.	2363.	2328.	2294.	2261.	2210.	2161.	2113	2069.
TYPE 45	2361.	2326.	2293.	2261.	2231.	2179.	2129.	2080.	2034.
TYPE 46	310.	306.	302.	298.	294.	288.	282.	275.	270.
TYPE 47	361.	356.	351.	347.	342.	335.	327.	320.	313.
TYPE 48	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 49	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 50	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 51	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 52	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 53	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 54	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 55	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
REGION 1	3786.	3637.	3596.	3669.	3699.	3670.	3642.	3634.	3623.	3691.
REGION 2	2630.	2392.	2448.	2457.	2477.	2465.	2454.	2456.	2459.	2507.
REGION 3	8383.	7919.	7916.	8012.	8089.	8055.	8024.	8037.	8054.	8208.
REGION 4	357.	317.	332.	334.	337.	336.	334.	334.	335.	342.
REGION 5	3191.	3282.	3121.	3181.	3214.	3203.	3193.	3200.	3209.	3273.
REGION 6	921.	855.	873.	890.	904.	907.	912.	921.	931.	955.
REGION 7	24513.	23344.	23278.	23066.	22992.	22672.	22367.	22191.	22023.	22328.
REGION 8	3985.	3822.	3631.	3731.	3794.	3792.	3792.	3819.	3841.	3908.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
REGION 1	3626.	3564.	3504.	3448.	3394.	3300.	3211.	3124.	3042.
REGION 2	2471.	2436.	2403.	2372.	2342.	2292.	2244.	2199.	2155.
REGION 3	8101.	7998.	7901.	7807.	7718.	7536.	7360.	7191.	7027.
REGION 4	337.	332.	327.	323.	318.	311.	304.	297.	293.
REGION 5	3242.	3203.	3166.	3130.	3097.	3026.	2959.	2894.	2831.
REGION 6	949.	944.	939.	934.	931.	912.	894.	877.	861.
REGION 7	21952.	21590.	21243.	20909.	20590.	20130.	19687.	19261.	18849.
REGION 8	3850.	3797.	3746.	3699.	3658.	3582.	3454.	3362.	3271.

TABLE 28
PART-TIME GRADUATE SIMULATION
ONE POSSIBLE FUTURE SIMULATION

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
SECTOR 1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
SECTOR 2	22251.	20570.	19400.	20355.	20679.	20910.	20950.	21207.	21474.	22105.
SECTOR 3	14727.	11580.	11057.	11837.	11753.	11562.	11380.	11261.	11149.	11304.
SECTOR 4	68633.	69197.	67970.	66755.	67202.	67120.	67078.	67419.	67804.	69333.
SECTOR 5	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
SECTOR 1	0.	0.	0.	0.	0.	0.	0.	0.	0.
SECTOR 2	22060.	22029.	22010.	22004.	22011.	21659.	21327.	21015.	20723.
SECTOR 3	11125.	10952.	10785.	10624.	10469.	10267.	10071.	9881.	9697.
SECTOR 4	68850.	68412.	68018.	67666.	67358.	66157.	65020.	63943.	62927.
SECTOR 5	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
LEVEL 1	105612.	101347.	98427.	98998.	99634.	99493.	99407.	99897.	100429.	102741.
LEVEL 2	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
LEVEL 1	102035.	101393.	100813.	100295.	99838.	98033.	96418.	94840.	93346.
LEVEL 2	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
TYPE 20	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 21	9874.	9627.	8663.	9129.	9299.	9367.	9440.	9566.	9700.	9974.
TYPE 22	10659.	9241.	9219.	9642.	9776.	9833.	9894.	10009.	10129.	10433.
TYPE 23	615.	708.	573.	597.	605.	606.	608.	614.	619.	635.
TYPE 24	1049.	947.	903.	942.	953.	957.	961.	971.	980.	1012.
TYPE 25	54.	48.	42.	45.	46.	47.	47.	48.	49.	50.
TYPE 26	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 27	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 28	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 29	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 30	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 31	592.	331.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 32	14136.	11249.	11057.	11837.	11753.	11562.	11380.	11261.	11149.	11304.
TYPE 33	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 34	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 35	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 36	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 37	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 38	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 39	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 40	20598.	20523.	20067.	19577.	19597.	19493.	19400.	19416.	19442.	19819.
TYPE 41	22661.	23705.	23203.	22962.	23240.	23276.	23331.	23523.	23735.	24242.
TYPE 42	11718.	11971.	11649.	11431.	11473.	11469.	11470.	11536.	11607.	11906.
TYPE 43	3408.	3363.	3343.	3311.	3358.	3314.	3411.	3457.	3501.	3613.
TYPE 44	4849.	4280.	4471.	4357.	4351.	4319.	4290.	4284.	4282.	4365.
TYPE 45	4768.	4614.	4584.	4503.	4533.	4528.	4525.	4549.	4574.	4691.
TYPE 46	547.	550.	513.	509.	514.	515.	517.	521.	524.	539.
TYPE 47	84.	191.	110.	136.	136.	135.	134.	134.	131.	137.
TYPE 48	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TABLE 28 (continued)

	1986	1987	1988	1989	1990	1991	1992	1993	1994
TYPE 20	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 21	9946.	9924.	9909.	9900.	9898.	9725.	9563.	9411.	9269.
TYPE 22	10422.	10417.	10416.	10421.	10432.	10278.	10133.	9997.	9863.
TYPE 23	631.	627.	624.	622.	619.	608.	596.	586.	575.
TYPE 24	1012.	1011.	1011.	1011.	1012.	999.	987.	975.	964.
TYPE 25	50.	50.	50.	50.	50.	49.	48.	47.	46.
TYPE 26	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 27	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 28	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 29	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 30	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 31	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 32	11125.	10952.	10785.	10624.	10469.	10267.	10071.	9881.	9697.
TYPE 33	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 34	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 35	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 36	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 37	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 38	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 39	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 40	19684.	19529.	19385.	19251.	19128.	18900.	18686.	18196.	17899.
TYPE 41	24063.	23903.	23762.	23640.	23537.	23067.	22625.	22211.	21823.
TYPE 42	11847.	11795.	11749.	11710.	11677.	11494.	11321.	11157.	11001.
TYPE 43	3615.	3618.	3623.	3630.	3639.	3587.	3539.	3494.	3452.
TYPE 44	4321.	4290.	4241.	4205.	4171.	4097.	4026.	3959.	3894.
TYPE 45	4649.	4619.	4592.	4568.	4547.	4465.	4387.	4312.	4242.
TYPE 46	536.	533.	531.	529.	527.	518.	509.	500.	492.
TYPE 47	136.	135.	134.	133.	132.	129.	127.	125.	123.
TYPE 48	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 49	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 50	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 51	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 52	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 53	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 54	0.	0.	0.	0.	0.	0.	0.	0.	0.
TYPE 55	0.	0.	0.	0.	0.	0.	0.	0.	0.

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
REGION 1	7771.	7301.	6990.	7077.	7143.	7134.	7129.	7163.	7200.	7376.
REGION 2	6178.	5891.	5945.	5989.	6048.	6068.	6089.	6143.	6199.	6369.
REGION 3	8134.	7520.	7458.	7542.	7665.	7711.	7760.	7851.	7945.	8171.
REGION 4	1034.	927.	820.	844.	863.	869.	876.	898.	901.	938.
REGION 5	6821.	7179.	6724.	6937.	6931.	6975.	7020.	7104.	7190.	7450.
REGION 6	5934.	5425.	5506.	5607.	5696.	5762.	5830.	5931.	6035.	6228.
REGION 7	54159.	50999.	49063.	48829.	48603.	48097.	47621.	47416.	47239.	48059.
REGION 8	15580.	16105.	15921.	16253.	16684.	16875.	17081.	17391.	17720.	19149.

	1986	1987	1988	1989	1990	1991	1992	1993	1994
REGION 1	7314.	7257.	7205.	7158.	7115.	6975.	6842.	6716.	6595.
REGION 2	6348.	6329.	6313.	6300.	6289.	6179.	6074.	5974.	5879.
REGION 3	8174.	8181.	8191.	8204.	8221.	8111.	8007.	7908.	7814.
REGION 4	937.	937.	937.	938.	939.	927.	915.	904.	894.
REGION 5	7455.	7462.	7472.	7485.	7501.	7410.	7324.	7243.	7166.
REGION 6	6255.	6285.	6319.	6356.	6397.	6328.	6264.	6205.	6152.
REGION 7	47475.	46919.	46391.	45890.	45416.	44575.	43789.	43093.	42469.
REGION 8	18077.	18022.	17984.	17963.	17958.	17578.	17224.	16897.	16594.

APPENDIX C

DRAWING POWER

OF

COLLEGES AND UNIVERSITIES

(I) A conceptual framework

(II) Suggested variables and measures for assessing drawing power

(III) An Institutional Drawing Power Profile and Notes on the Meaning and Useage of Drawing Power Indicators

(IV) An example of the distribution of students using drawing power concepts

I. A Conceptual Framework

The ability of an institution to attract or draw students is thought to be dependent upon the characteristics of all institutions in the appropriate set of competing institutions and on the characteristics of the available pool of students. Thus, while an institution could be said to have an absolute attractiveness level, it could also be said to have a relative attractiveness level (hereafter called drawing power). Drawing power may change even as attractiveness remains constant.

For enrollment projection purposes, drawing power is being conceptualized as an indicator of what will happen to an institution's enrollment level. For instance given a specified change in the size of the student pool, an institution might be projected to fall into one of five draw classes:

1) Large increase in freshman enrollment
2) Increase in freshman enrollment
3) Stable freshman enrollment
4) decrease in freshman enrollment
5) Large decrease in freshman enrollments

Percentage changes could be established based on a number of specification rules. It should be pointed out that drawing power is not based on institutional "quality." Quality would be only one of several determinants of drawing power.

A number of types of institutions have been hypothesized which in turn should help to identify their enrollment draw under specified conditions. The institutions are defined in order roughly according to their usual enrollment draw, from increasing to decreasing enrollment level or shares.

Emerging Institutions: Those institutions which desire and are able to significantly increase their share of prospective students. It may be that the institution is new and is adding new students to the system as well as drawing students from other institutions, that a mission change has occured in an otherwise strong institution, that significant quality improvements are being made or that the institution's competition has declined substantially.

Stable Institutions: Those institutions which are so desirable that appropriate numbers of desired students will always be available given no institutional response other than an increase or decrease in their acceptance ratio. Institutions in this group are able to maintain a preferred enrollment size and student composition. They choose to hold enrollment levels stable.

Adapting Institutions: Those institutions which implement timely and substantive changes in response to changing prospective student pools. When this approach is used in conjunction with the admissions levels, these institutions minimize enrollment fluctuations while maintaining organizational health and program relevance. They are affected by large sudden pool changes.

Attractive Fixed Image Institutions: Those institutions which are quite popular, but, due to a somewhat limited pool of applicants and to rigid self-images regarding mission, allow their enrollments to fluctuate somewhat with significant changes in the available pool of prospective students.

Responding Institutions: Those institutions which attract substantial numbers of applicants and which rely primarily on alteration of admission standards or acceptance ratios to minimize enrollment fluctuations. During fairly stable times and for the short term, enrollment levels may be controlled as well as they are by the adapting institutions. During a long period of steady decline in available pools these institutions will reach a limit on their willingness to alter admissions standards. They may also encounter reduced organizational health because of lack of fit between students, program and faculty. Under these conditions enrollments would be adversely affected.

Tidewater Institutions: Those institutions which are not sufficiently applicant rich to be able to use the admissions lever and for whatever reason are not presently undertaking or benefiting from substantive adaptations. These institutions are basically stable in terms of absolute attractiveness - a stable portion of the available pool considers them to be desirable. The enrollments of these institutions will generally fluctuate even greater than the fluctuations in the pool of prospective students. During a period of declining pool, the draw of stable, fixed image, adapting and responding institutions reduces the market share available to this group of institutions. When the pool rises again this group of institutions will be among the first to take advantage and to increase its market share. If enrollment at an institution in this group (or any group) drops below some level necessary to maintain the organization, the institution may well close; its drawing power becomes nonexistant.

Declining Institutions: Those institutions which find themselves able to attract fewer prospective students each year whether the reason be a decline in quality, atmosphere or program relevance at the institution, new or improved institutional competition or a change in composition of the available pool. Of greatest interest may be those declining institutions which are at or below the tidewater level of applicants. They will have the most difficult time reversing a negative trend and might be labeled failing institutions. Declines in enrollment will be greater for these institutions than for any other group. A stable, fixed image or adapting institution may also be labeled declining under the specified circumstances. In those instances the period of decline is not affecting enrollment levels.

Several variables or factors should be helpful in classifying institutions according to these types. They include:

a) General overall indicators

   1) General Attractiveness Level and Drawing Power Margin (degree of excess pool)

   2) General Attractiveness Trends

   3) Localness of Draw

b) Changes in Institutional Mission

c) Changes in Popularity of Major Programs

d) Relationships with Competition

1) Changes in One's Competition

2) Competitive Position

e) Changes in Relative Net Student Costs

f) Changes in General Economy

g) Organizational or Financial Health of the Institution

h) Leadership or Institutional Management

Measures for assessing these variables are suggested in Section II. It is not at all certain how to best aggregate the measures into a single drawing power indicator. It is expected the certain complex relationships between variables will exist. For instance the importance of certain variables will likely be dependent on the pecking order of the institution within its specific competitive group.

One possible procedure for using a drawing power measure for enrollment projection is described in Section 3.

II. Variables or Factors Related to Institutional Drawing Power and Suggested Measures for Assessing Them

A. General Overall Indicators

1. General Attractiveness Level and Drawing Power Margin (The margin refers to the degree to which an institution has an excess pool of students desiring to enroll.)

Measure 1: Mean ability of enrollees divided by mean ability of nonenrolled, nonaccepted applicants (requires ability information which we do not now have).

Measure 2: Ratio of statewide spaces made available to the number of applicants for those spaces; might be approximated by the overall ratio of enrollments to applications for selected types of institutions. The resulting ratio will be related to the institution's program emphasis or mission. Health science centers shoud look good using this measure.

Measure 3: The admissions acceptance ratio.

Measure 4: Percentage of applicants of specified ability who also applied to an institution of as high or higher ability admissions standards (need better admissions data to do this).

Measure 5: Percentage of applicants from one ability group lower than is usually accepted and who applied to no other institution of equally high standards as one's own (need better admissions data).

Measure 6: Average SAT score or proportion of high school regents winners to total enrolled freshman.

Measure 7:

2. General Attractiveness Trends

Measure 1: Three-Year Trend in the statewide enrollment share ratio.

Measure 2: Three-Year Trend movement on the admissions matrix; enrollment ratio divided by the acceptance ratio.

Measure 3: Trends for each of the measures identified under A1.

Measure 4:

3. Localness of Draw

Measure 1: Percentage of students from within region.

Measure 2: Percentage of students from out-of-state.

Measure 3:

B. Changes in Institutional Mission

Measure 1: Prospects for other types of students (part-time, graduate) and consequent need to alter ones freshmen numbers - may cause an institution to enter the emergent classification.

Measure 2: Changes in Program Registrations.

Measure 3: Central System Mandates.

Measure 4: Plans set forth in Master Plan documents or program proposals.

Measure 5: Estimates of rigidity in Mission.

Measure 6: Estimates of changes in composition of the student pool related to mission (e.g., increasing or decreasing religiousness of the population).

Measure 7:

C. Changes in Popularity of Major Programs

Measure 1: Generate a numerical score for the predicted popularity of each major program and average across program weighting based on the emphasis given each program. Job market predictions or indices by program area and predictions regarding societal attitudes by program can be converted to numerical scores. Two separate scores might be used.

Measure 2:

D. Relationships With Competition

1. Changes in One's Competition

Measure 1: The average change in draw for the institution's primary competitors.

Measure 2: The entrance of new competitors or the complete demise of an old competitor (new offerings by high schools, military or industry); a new college opening or an old college closing).

Measure 3:

2. Competitive Position: Dominance level in one's competitive group as identified from cluster analysis, admissions analysis etc. Unless the competitive group is characterized by a specialized mission and a surplus pool of students or by management inflexibility (rigid mission) then in a time of generally declining pool it wuld be expected that:

   a) institutions at the bottom of the pecking order would shift their mission, move to the top of a slightly "lower" competitive group and continue to draw well;

   b) institutions in the middle would become nearer the bottom of the group and would experience the greatest decline of any in the group; and

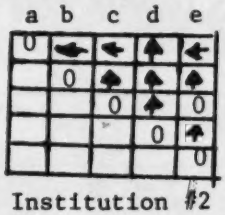
   c) dominant institutions would pull students from the middle draw group and continue to do very well.

   Measure 1: Rank order of the acceptance ratio for the institutions in a competitive group.

   Measure 2: Percent selecting ones college (x) given joint acceptances between two colleges x and y; or the ratio of students selecting x to those selecting y (need more data than is now available).

   Measure 3: Results of a scoring model which identifies the dominance in admissions data (need more data).

   a) Institution attended
   b) Interested: No Application
   c) Applied, Not Accepted, Not Preferred
   d) Applied, Not Accepted, Preferred
   e) Applied, Accepted



Arrows point to preferred institution
"O" indicates a tie or equal preference.

   Measure 4: Relative Position on the admissions matrix; rank order of enrollment ratio divided by acceptance ratio.

   Measure 5:

E. Changes in Relative Net Student Costs

   Measure 1: Ratio of the institution's projected net cost to students (sum of tuition and room and board less institutional aid and external aid - e.g., TAP - per student) to the average net cost per student projected statewide divided by the current ratio.

Measure 2:

F. Changes in General Economy

This factor should impact primarily on the lowest draw group and on very specialized mission institutions.

Measure 1: Ratio of projected to current economical indicators (e.g., statewide or regional Price Index, gross national product, etc.) applied only to selected institutions.

Measure 2:

G. Organizational or Financial Health of the Institution

Measure 1: Indicators identified by monitoring project.

H. Leadership or Institutional Managment

Beyond examination by SED.

INSTITUTIONAL ENROLLMENT PLANNING PROFILE
REGION:
TYPE OF INSTITUTION:
LEVEL OF INSTITUTION:

	1974	1975	1976	1977	1978
Full-Time First-Time Students					
% Share of Statewide Total	0.604	0.739	0.648	0.706	0.775
% Share of Institutional Type's Total	10.71	15.13	11.75	13.91	14.41
% of Applicants Enrolled	24.2	21.1	23.2	22.6	22.1
% of Acceptances Enrolled	50.7	47.9	49.3	47.4	50.8
% of Applicants Accepted	47.4	44.1	47.1	47.8	43.5
Draw Ratio (% Enrolled/% Accepted)	1.062	1.086	1.046	0.992	1.168
% From Home Region	38.1	39.2	28.7	28.1	N/A
% From Out-of-State	45.4	46.2	55.2	56.6	N/A
% Share of Type's FT Graduate Students	35.30	34.96	35.45	36.93	37.75
% Share of Region's FT Graduate Students	18.89	19.42	18.25	20.16	N/A
% Share of Region's PT Graduate Students	2.55	2.71	3.73	3.59	N/A
% Share of Region's PT Undergraduate Students	0.63	0.68	0.75	0.63	N/A
% Undergraduate Tuition is of Type's Average	107.2	105.6	105.7	107.2	105.6
Student-Related Expenditures per FTES	7231.	7550.	8295.	8465.	N/A
Sophomore Transiton Ratio	1.355	1.011	0.923	1.096	1.015
Upper Division Transion Ratio	0.749	0.756	0.724	0.761	0.760

N.B.-See accompanying notes.

NYSED: Postsecondary Information Systems/HEDS (10/31/79).

REGION:
TYPE OF INSTITUTION:
LEVEL OF INSTITUTION:

10 Counties Contributing the Most Full-Time First-Time Students in 1974-77

1974	%	%-Cty	1975	%	%-Cty	1976	%	%-Cty	1977	%	%-Cty
Kings	16.298	1.372	Kings	19.108	1.595	Kings	19.581	2.023	Kings	20.692	1.907
New York	15.855	3.088	New York	15.390	3.045	New York	15.455	3.467	New York	14.790	1.712
Queens	14.823	1.528	Queens	12.937	1.283	Queens	14.669	1.931	Queens	12.008	2.408
Bronx	7.670	1.203	Bronx	7.361	1.186	Bronx	7.073	1.322	Bronx	9.091	1.482
Nassau	6.932	0.575	Nassau	5.874	0.484	Nassau	6.680	0.661	Nassau	5.902	0.601
Westchester	4.867	1.043	Westchester	4.387	0.790	Westchester	3.078	0.619	Westchester	2.917	0.551
Richmond	2.139	1.117	Richmond	2.379	1.317	Richmond	1.965	1.445	Richmond	2.578	0.345
Rockland	1.254	0/800	Rockland	1.561	0.200	Rockland	1.572	0.236	Rockland	2.442	1.687
Suffolk	1.254	0.172	Suffolk	0.818	0.400	Suffolk	1.048	0.537	Suffolk	0.746	2.107
Dutchess	0.516	0.418	Dutchess	0.520	0.374	Dutchess	0.196	0.604	Dutchess	0.611	2.088
TOTAL	71.608		TOTAL	70.335		TOTAL	71.316		TOTAL	71.777	

Raw Data	1974	1975	1976	1977	1978
Full-Time First-Time Students					
Enrolled in New York State	152,783	157,724	151,762	155,667	157,191
Enrolled in Institution's Type	8,616	7,698	8,371	7,903	8,453
Enrolled in the Institution	2,156	1,345	1,538	1,505	1,619
# From the Institution's Region	770	769	897	870	N/A
# From Out-of-State	350	352	426	392	N/A
Admissions Data					
Applications Received	5,089	5,629	6,153	7,492	6,825
Applications Accepted	3,233	3,501	3,759	3,997	3,875
Applicants Enrolled	1,356	1,413	1,718	1,932	1,712
Basic Student Charges					
Tuition and Required Annual Fees	2,950	3,300	3,550	3,550	4,150
Institutional Type's Average	3,243	3,534	3,825	4,078	4,479
Full-Time Graduate Students	4,233	4,539	4,758	4,727	4,491
Institutional Type's FT Graduate Students	16,787	17,315	17,452	17,459	17,125
FT Graduate Students (RSN)	2,216	2,440	2,559	2,438	N/A
Region's FT Graduate Students	14,864	14,057	14,737	11,858	N/A
Part-Time Graduate Students	7,318	7,682	7,405	7,450	N/A
Region's PT Graduate Students	51,064	47,017	38,011	35,133	N/A
Part-Time Undergraduate Students	7,318	1,299	1,365	1,472	N/A
Region's PT Undergraduate Students	107,868	111,827	90,869	81,827	N/A
FTES	19,553	19,889	20,448	21,463	22,023

NOTES ON THE MEANING AND USAGE OF DRAWING POWER INDICATORS

Enrollment drawing power refers to an institution's ability to attract students given a certain pool of available students, economic trends, social climate, and competing institutions. It may also be thought of as enrollment flexibility --the ability to increase enrollment levels at will. The indicators on pages 181-182 naturally assume the student, societal and institutional conditions present during the five years reported. These indicators help to estimate enrollment distribution or an institution's share of students in the future, but they must be used cautiously. Definition and discussion of each of the indicators is provided below.

Share of Statewide Full-Time, First-Time Students: Institutional "freshmen" divided by total freshmen attending in the State (NYSED-2.4). This is one of the better overall measures of drawing power. It is most meaningful in terms of its trend line. An increase in share over time is, by definition, an increase in drawing power or relative attractiveness whether the institution's enrollments have gone up or down.

Share of Institutional Type's Enrollment: Full-time, first-time students attending the institution divided by freshmen attending all institutions of the same institutional type (HEDS classification). Subgroups of prospective students focus their attentions on subgroups of similar institutions. The trend in an institution's share of enrollments for a group of similar institutions is a better indicator than the statewide share since it removes fluctuations due to changes in the size of irrelevant subpools of students. Institutions having the same HEDS classification may or may not be competing for the same subset of students. If not, alternatives worth considering include groups of institutions which students report as being similar or to which joint applications are typically made. The trend in the institutional group's share of statewide enrollment may also be analyzed to assess whether the unique offerings of the group are becoming relatively more or less attractive to students. Changes of this sort occur either because the composition of prospective student pools are changing or because the rewards for different fields of study (e.g., job markets) are changing.

Percent of Applicants Enrolled: The ratio of first-time applicants for full-time undergraduate study that subsequently enrolled to the number of applications received (NYSED-1.0). A high ratio indicates either that the institution is faring well with its competitors or the institution is unique in its mission (e.g., geographic location and service, or specialized programs) and does not have competitors. A very high ratio (near 1.0) would permit little room for institutional policy to increase enrollments quickly -- demand has been tapped. A low ratio may be due to either the institution faring poorly among its primary competition, to high levels of multiple application among students, to the institution serving as a safety valve for students reaching for a more selective tier of colleges, or to many more students being interested than are accepted. Some of the other indicators are

useful in interpreting the enrollment ratio. For instance, a low acceptance ratio would lend credence to the last alternative. Alone, this ratio does not measure drawing power, but it may lead to discussions which help to classify the institution and its future. Increases in this ratio are normally desirable and decreases undersirable.

Percent of Acceptances Enrolled: The ratio of first-time applicants enrolled to the number of applications accepted (NYSED-1.0). This is a clear measure of attractiveness and an increase is always desirable. Of course, certain fluctuations in this ratio can be the result of changes in admissions policies rather than actual changes in attractiveness. The magnitude of the ratio is related to the extent of multiple applications being made by students and consequently is most meaningful when compared to the average ratio for competing institutions.

Percent of Applicants Accepted: The ratio of first-time aplicants accepted for admission to full-time undergraduate study to the number of applications received (NYSED-1.0). The lower this value is the more flexibility an institution is assumed to have in terms of increasing enrollments without seriously modifying the nature of students admitted. A cutoff of no more than 70 percent has arbitrarily been set for higher draw institutions in the Department enrollment simulation model. However, the ratio is more meaningful when compared to the ratios of other institutions in the relevant competing group. The high and low values within the group may be considered desirable and undersirable, respectively, regardless of their magnitudes. A better measure of drawing power would examine the size of the reserve pool which was not accepted and which still had minimally acceptable admittance characteristics. Data are not available at the State level to develop such a measure.

Draw Ratio: The percent of acceptances enrolled divided by the percent of applicants accepted. The higher the ratio the better. The enrollment and acceptance ratios tend to fluctuate together. When the acceptance ratio is altered as a result of policy, the enrollmnt ratio tends to move in the same direction. The draw ratios help to remove the impact of intentional adjustments of the acceptance ratio. The drawing power trend should be more clear as a result. As with the other indices, the magnitude is meaningful only when compared to the ratios of relevant competing and similar institutions. An institution which enrolls 90 percent of its applicants has mathematical limits of .9 and 1.1 while an institution which enrolls only 10 percent of its applicants has a range of possible draw values between .1 and 10. These differences must be considered.

Percent from Home Regions: The ratio of freshmen reporting a permanent residence in the Regents Region where the college is located to the total freshmen in the institution (NYSED-2.8). It is generally assumed that the wider the geographic draw of an institution the more attractive it is and the more control it has over its enrollment levels. Location of an institution near a regional boundary would naturally affect its home region ratio. For most institutions a percentage of less than 50 percent is thought to be associated with good visibility and greater institutional drawing power or enrollment flexibility. Trend lines are also helpful. As energy costs and inflation continue to rise it is likely that more institutions will experience a rise in their percent of students from the home region.

Percent from Out-of-State: The ratio of freshmen reporting an out-of-state permanent residence to the total freshmen in the institution (NYSED-2.8). For most institutions, a percentage of greater than 25 percent is thought to be associated with good visibility and greater drawing power or enrollment.

Share of Type's FT Graduate Students: The ratio of full-time graduate students enrolled in the institution to the total number of full-time graduates enrolled in institutions of the same HEDS type (NYSED-2.3 and NYSED-2.4). This is an overall measure of graduate student drawing power and is most meaningful in terms of its trend line. An increase in the index is desirable. As always, the specific set of competing institutions would provide a better denominator for this index.

Share of Region's FTGR, PTGR, or PTUG Students: The ratio of the institution's enrollment of a given kind to total students of that kind attending anywhere in the State and who report permanent residence in the region where the institution is located (NYSED-2.8). Local (regional) populations or students are typically the primary source of students for an institution. Trends in this ratio indicate how well the institution is competing for these students. Institutions may wish to generate another ratio for the specific counties supplying the majority of their students.

Percent Undergraduate Tuition is of Type's Average: The ratio of full-time undergraduate tuition and required fees at the institution to the average tuition and required fees charged at the same type (HEDS classification) of institution (NCES-2300-1). A shift in this index is likely to be associated with a shift in competitive position. Those institutions with a percent below 100 should theoretically be in a better position than those with a percentage above 100. Again, the average for the specific group of competing institutions would be a better measure than using the general institutional type.

Student-Related Expenditures per FTES: Student-related expenditures are a functional aggregation of current funds expenditures that include not only instruction and student services expenditures, but also a portion of that overhead (expenditures for academic support, institutional support, and operation and maintenance of plant) common to the three primary functions of the institution (instruction, research, and public service). In this instance the portion is equal to the ratio of instruction to the sum of those three functions (NCES-2300-4). Full-time equivalent enrollment is the sum of all full-time enrollment plus one-third of the part-time undergraduate enrollment plus four-tenths of the part-time graduate (including first-professional) enrollment. This ratio should keep pace with the average ratio for similar institutions and with the rate of inflation. Drops from the desired level may cut into student services and instruction quality which may reduce the institution's attractiveness to students. Increases should generally exceed inflation to be considered real increases. More sophisticated analyses may be desirable.

Sophomore Transition Ratio: The ratio of estimated sophomores enrolled in the institution in year K to the full-time first-time students enrolled in year K-1, with no adjustment made for entering transfers (NYSED-2.8). This is a rough estimate of retention. Clear increases or decreases in trend lines may suggest changing attractiveness of the institution. A very high or low valve may also indicate a discrepancy between students' information and perceptions prior to arriving on campus and their experience after arriving. This ratio is commonly above one due to a variety of factors -- a) the estimate of sophomores includes some 2nd year freshmen, b) it also includes 2nd year sophomores and b) all entering transfers into the lower division are included in the sophomore estimate.

Upper Division Transition Ratio: The institutional rato of upper division less first-time transfers for year K to the sum of first-time transfers in year K-1 and lower division enrollment in year K-2. Clear trends in this ratio also may suggest changes in the institution's attractiveness. Care should be used in interpreting the

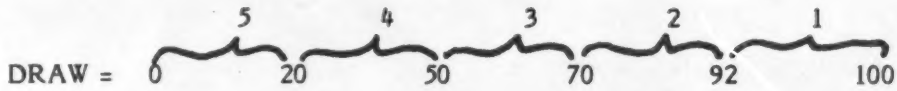
transition ratios. A change in student composition will change the ratio even though no change in attractiveness need have occured. For instance, if institutions lower their admission standards to combat declining enrollments without adjusting their instruction procedures, declining sophomore ratios are apt to occur. A shift in student composition toward more low income and minority students may produce the same result. A change in the sophomore ratio is frequently accompanied by a change in the opposite direction for the upper divison ratio. It appears that to a degree, students may be weeded out at different times depending on the match between entering students and program characteristics. Where available cohort survival studies provide better measures of these phenomena.

Ten Counties Contributing Freshmen: If a small set of counties supplies a large portion of the institution's enrollment then the high school graduate and population projections for those specific counties should be examined when assessing the institution's future (NYSED-2.8). Two additional measures should be examined for those counties. The trend in share of a county's pool of students helps to monitor competitive position in that county. And, the percent of a county's enrollment going to "higher" draw institutions will help to project whether future enrollment declines will result in a loss of enrollment share for the institution being analyzed.

IV. Distribution of Students Using Drawing Power Concepts: An Example

In the methodology section of this report, drawing power is discussed as a measure of relative attractiveness or competitive position. An institution with high drawing power is less susceptible to the influence of declining pools of students. Computationally there are a variety of ways this can be obtained or estimated. In this section we are not concerned with how to calculate it, only how it can be used. For the purposes of this example drawing power of institution I is defined as a predetermined integer value between zero and 100 = DRAW(I).

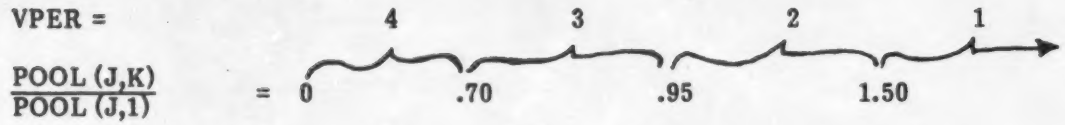
Due to limited understanding of the effects of specific values we must group the 100 possible drawing power values into categories which are meaningful to us. Assume that five drawing power categories are important (i.e., NDRAW = 5), and that these cateogires are defined as follows:



In this case the breakpoints for the categories are VDRAW(1) = 92, VDRAW(2) = 70, VDRAW(3) = 50, and VDRAW(4) = 20. Note that only four numbers are needed to define the five classes.

Because institutions will experience or induce different changes in their (or drawing power categories) share of total freshmen enrollment depending on the size of the total pool of students, it is also necessary to define the different "environments" that institutions may face. For instance, assume that four significantly different environments have been identified (NPER=4). The change in the size of the pool of students from year 1 to year K is used as the measure, $\frac{POOL\ (J,K)}{POOL\ (J,I)}$, and can be any positive number. The breakpoints defining the four categories are VPER(1) = 1.5, VPER(2) = .95 and VPER(3) = .7 as illustrated below.[1]

[1]These are probably not very realistic categories, but they illustrate the flexibility of the procedure.



Very large increases in the size of the pool (> 50 percent increase, VPER = 1) are felt (for this example to be an important environment which institutions respond to in a similar fashion throughout its range. Other categories seem to represent very large declines (> 30 percent decline), moderate decline (> 5 percent decline) and small decline to moderate increases (≤ 5 percent decline to ≤ 50 percent increases). (This last category might well be split into at least three meaningful categories. It was included to illustrate that there are no bounds on where the breakpoints can be set.) Logically, narrower ranges would represent greater precision or more homogenous categories. But, of course, a compromise must be made due to limited understanding about how institutions respond to, and what they experience with respect to different environments.

Finally, it is necessary to establish what happens to the enrollment of an institution with a given drawing power classification during a given year or in a given environment (change in the student pool). RMF (VDRAW, VPER) and RJUDGE (VDRAW, VPER) will be used to specify the effect.

RMF reflects judgment or research specifying the change in enrollment that can be expected given a particular drawing power category (VDRAW) and a given environment (VPER). RMF may be defined by, for example, saying that the freshmen enrollment of institutions in one drawing power category is expected to decline at 1/2 the rate of institutions in another category during periods of a moderate decline in the student pool.

Since, enrollments for institutions in the lowest drawing power classification (VDRAW = 5) are allocated from those students "left over" from the pool after projections have been made for the higher draw categories, then there are in this example (NDRAW-1) (NPER) = (5-1) (4) = 16 possible values of RMF which must be defined.

As the number of environmental categories increases to become a continous variable the discrepancy between the initial and final RMF value approaches zero. The errors produced by using a mean pool change value are no longer present. Our initial estimate would be the final value. In that extreme case there would be no need to use an RJUDGE variable; the initial estimate bypasses that step. The following description of the basic numerical approach should help to clarify the situation.

Let's assume that from an apriori basis, research or judgement, the following values of RMF (VDRAW, VPER) have been established:

VDRAW

VPER	1	2	3	4	5	
1	1.30	1.35	1.50	1.60	1.50	Increasing Pool
2	1.00	1.05	1.10	1.30	1.1	
3	1.00	.95	.90	.80	.70	
4	.70	.60	.55	.55	.30	Decreasing Pool
	Higher Draw				Lower Draw	

Thus, RMF (2,3) = .95 which indicates that frshman enrollments of moderately high drawing power institutions will decline by 5% from year 1 to year k whenever a moderately decreasing pool of students (5 - 30 percent decline) is encountered. By reorganizing the equation for RMF, it may be seen that freshmen projected for year K equal PF (I,J,K) = PF (I,J,1)* RMF. However, the wide ranges used in this example to classify changes in the student pool creates a problem. Results will be more accurate if the exact change projected in the pool is utilized directly in making projections. To do this the relationship (RJUDGE) between pool change and

It should be understood that the percent change in enrollment (RMF * 100) is estimated as a way to develop the abstract variable RJUDGE. RJUDGE is then used with specific projected changes in the pool of students to develop a final RMF value which represents the projected change in enrollment from year 1 to year K for the particular drawing power category. To be more concrete the basic equations are defined below. The proportional change in student pool and freshmen enrollment are:

$$\text{Change in Pool} = A = 1 - \frac{POOL(J,K)}{POOL(J,1)}$$

$$\text{Change in Freshmen} = B = 1 - \frac{PF(I,J,K)}{PF(I,J,1)}$$

By assuming that a direct relationship exists between the change in pool and the change in freshmen, the two can be mathematically linked by the formula

B = A * constant (i.e., RJUDGE)

Manipulation of these formulae in the following ways permits a new equation defining the proportional change in freshmen (RMF) to be developed.

$$1 - \frac{PF(I,J,K)}{PF(I,J,1)} = (1 - \frac{Pool(J,K)}{Pool(J,1)}) * RJUDGE$$

$$\text{OR } RMF = \frac{PF(I,J,K)}{PF(I,J,1)} = 1 - (1 - \frac{Pool(J,K)}{Pool(J,1)}) * RJUDGE$$

freshmen change must be formally estimated. You will recall it is related to RMF as follows:

$$RMF = 1 - (1 - \frac{POOL(J,K)}{POOL(J,1)}) * RJUDGE$$

RJUDGE is estimated by assuming the estimated RMF values and mean values for categories of changes in the pool of students. RJUDGE is then calculated from the equation and used in the computer program with the exact pool change for a given year to develop a new RMF appropriate for that specific year and pool change.

For instance, let us do it for RMF (2,3) = .95. By choosing a middle value in the range of VPER=3 of .85 we can calculate RJUDGE (2,3).

$$RJUDGE(2,3) = (1 - RMF(2,3)) \ / \ (1 - \frac{POOL(J,K)}{POOL(J,1)})$$

$$RJUDGE(2,3) = (1 - .95) \ / \ (1 - .85)$$

$$= \frac{+.05}{+.15} = .33$$

By applying the endpoints of the range defined by VPER=3 we find that RMF (2,3) is allowed to range between .90 and .98. The more finely we classify changes in the pool the less RMF can vary.

The remaining values for RJUDGE were calculated using mean values for classes of change in the pool equal to .50, .85, 1.2 and 1.6 for the respective classes. The resulting RJUDGE values are:

		VDRAW			
		1	2	3	4
V	1	.60	-2.33	2.50	1.00
P	2	0	-.33	.50	.50
E	3	0	.33	-.50	-.33

In the projections model currently used in New York State the following assumptions and parameters have been used.

a. NDRAW = 2.

b. The VDRAW procedures are bypassed to simply read institutional data such that institutions are preclassified as either higher draw or lower draw.

c. NPER = 3.

d. VPER (1) = 1.0, VPER (2) = .93.

e. The initial RMF matrix is:

	High Draw
increasing pool	1.05
small decline	1.00
moderate decline	.925

f. If the values chosen for the pool change are 1.05, .96 and .85 respectively RJUDGE (VDRAW, VPER) is:

1.0
0.0
0.5

The use of only two drawing power categories and three environmental categories is due to our limited understanding of how to measure drawing power and of the consequences of different environments. Improving understanding in these areas is a priority goal for development of the model.

APPENDIX D

TERMINOLOGY

1. Degree Credit Enrollment: Students in a program or taking courses which are creditable towards a diploma, certificate, associate, bachelor's, master's, doctoral, or first-professional degree. The following are not included:
   a. Students in noncredit adult education courses.
   b. Students taking courses at home by mail, radio, or television.
   c. Students enrolled only for "short courses."
   d. Auditors.
   e. Students studying abroad if their enrollment at the reporting instituton is only an administrative record and the fee is only nominal.
   f. High school students taking college courses.
   g. Students known to be enrolled concurrently at another college or university, if the latter will report their enrollment (to avoid double-counting). Normally, the institution that will eventually grant the degrees shoud report the students' enrollment.
2. Resident Students: Students who take their college work on the main campus or on a branch campus. Living quarters (on campus or off) and legal domicile are irrelevant.
3. Extension Students: Extension students are not defined uniformly in all institutions. Most commonly it means face-to-face instruction in centers or places away from the main campus or branch campuses. It may also include on-campus instruction offered by an extension division. Extension centers differ from branch campuses in that students are not counted as resident students. Note that only degree-credit extension enrollment is requested (i.e., enrollment in courses creditable toward a degree, diploma, certificate, or other formal awards). Enrollment in interest courses, short courses, noncredit adult education courses, and other community-type programs not

creditable toward such an award are to be excluded even though they may be offered under the auspices of the extension division.

4. Undergraduate: A student who has not earned a bachelor's degree in the program in which he/she is applying. The term undergraduate includes: All students in bachelor's degree programs which require at least four years but not more than five years of college work; and all associate degree students. Students in other programs which do not result in an associate degree or bachelor's degree are included.

   a. Lower Division: Includes freshmen and sophomores in bachelor's degree programs, students in associate degree programs, and students in terminal occupational programs of one, two, or three years that result in formal recognition below the baccalaureate. For these simulations 33 percent of the undergraduate unclassifieds were included for four-year institutions and 100 percent for two-year institutions.

   b. Upper Division: Includes students who have completed the sophomore year and typically are enrolled in a four- or five-year bachelor's degree program. For these simulations, 67 percent of the undergraduate unclassifieds were included.

   c. Unclassified: Not candidates for a degree or other formal award, although taking degree-credit courses designated by the institution as undergraduate level.

5. First-professional:

   a. First-professional Degree Program Students: Students enrolled in a professional school or program which required at least two academic years of college work for entrance and a total of at least six years for a degree. Includes only students in the following first-professional degree programs: Dentistry (D.D.S. or D.M.D. degree), Medicine (M.D. De-

gree), Optometry (O.D. degree), Osteopathic Medicine (D.O. degree), Pharmacy (D. Phar. degree), Podiatry (Pod.D., D.P. or Podiatric Medicine, D.P.M., include chiropody), Veterinary Medicine (D.V.M. degree), Chiropractic (D.C. or D.C.M. degree), Law (LLB. or J.D. degree), and Theological Professions(B.D., M.Div.,, Rabbi or other first-professional degree).

b. Unclassified: Students who are not candidates for a first-professional degree, but are taking degree-credit courses, designated by your institution as first-professional level.

6. Graduate:

a. Master's or Doctoral Degree Program Students: Students who hold a bachelor's or a first-professional degree, or equivalent, and are in a program for a master's or doctoral degree.

b. Graduate Certificate Students: Students enrolled in graduate level curricula which lead to a certificate, such as a Certificate of Advanced Studies (CAS), School Administrator and Supervisor, School Counselor, and Library Information Studies.

c. Unclassified: Students who are not candidates for a graduate degree certificate but taking degree-credit courses, designated by your institution as graduate level.

7. First-time Freshmen: Entering freshmen who have not previously attended ANY college. Includes students enrolled in the fall term who attended college for the first time in the summer of 1978. Also includes students who entered with advanced standing (college credits earned before graduation from high school), including those with sophomore standing. For these simulations students unclassified as to program are included.

8. First-time Unclassified Students: Students who are unclassified undergraduates and have not previously attended any college. Includes students enrolled in the fall term who attended college for the first time in the summer of 1978.

9. Full-time: Those whose academic load-coursework or other required activity is at least 75 percent of the normal full-time load. Undergraduate students must carry at least 12 credit hours to be considered full-time, while graduate students must carry at least 9 credit-hours.

10. Part-time: Those whose academic load-coursework or other required activity is less than 75 percent of the normal full-time load.

11. Transfer Students: Students who terminate enrollment in one institution and subsequently enroll in another, usually with advanced standing credit.

12. Residence and Migration Data: For these simulations enrollments were broken out by the 8 Regents regions, an other state's region and a foreign region. All students unclassified as to region were included for the region where the reporting institution is located.